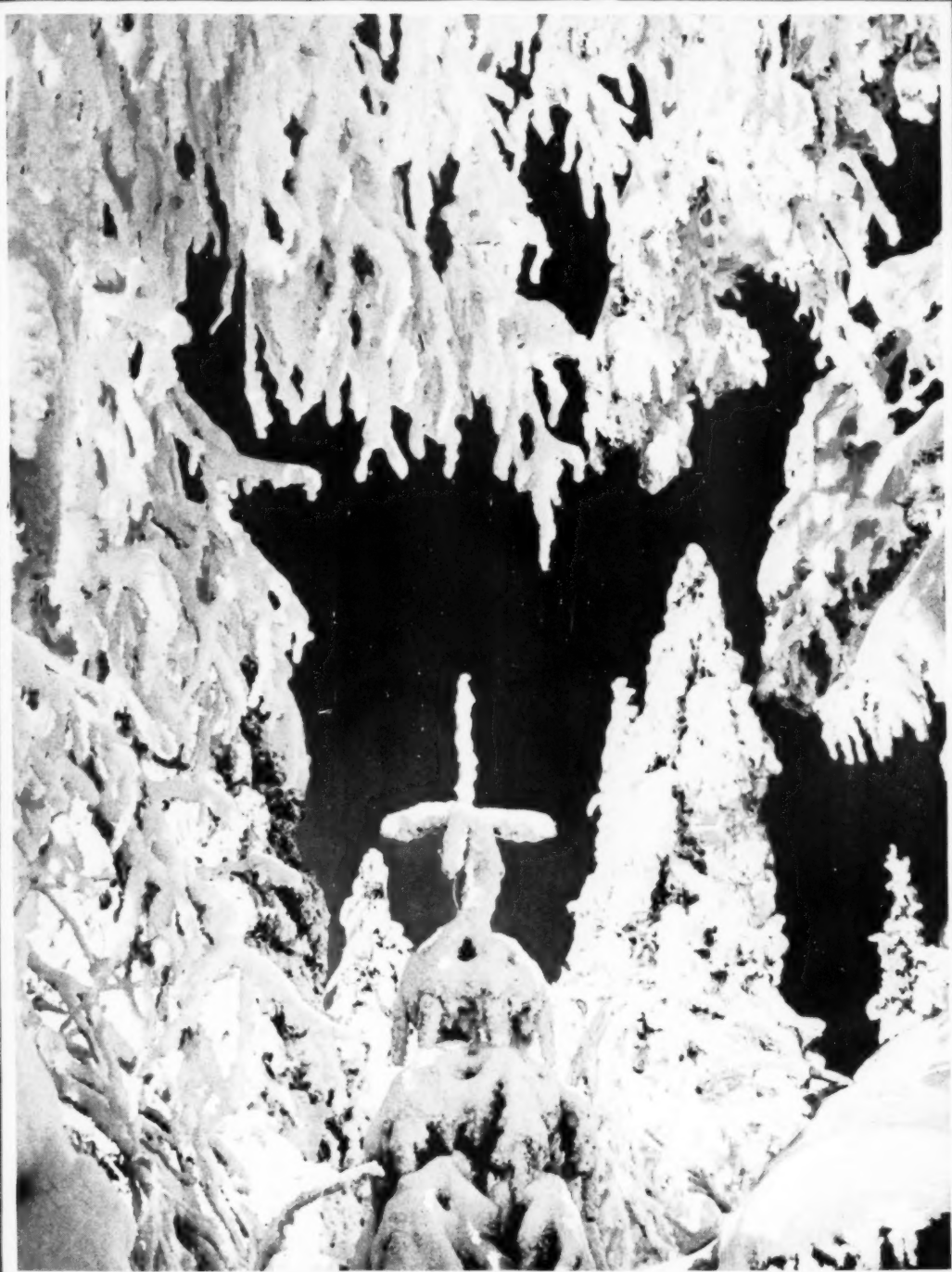


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AMERICAN FORESTS

VOLUME 49

DECEMBER, 1943

NUMBER 12

Editor
OVID BUTLER

Associate Editors
LILIAN CROMELIN ERLE KAUFFMAN

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The American Forestry Association, founded in 1875, is a citizens' organization for the advancement of intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation.

Its educational activities seek to bring about a better appreciation and handling of these resources, whether publicly or privately owned, that they may contribute permanently to the welfare of the nation and its people.

In addition to publication of its magazine—*AMERICAN FORESTS*—designed to keep before the people of the country important conservation questions and issues, the Association carries on educational work in various fields including forest fire prevention, reforestation, protection of wildlife, prevention of soil erosion, preservation of wilderness areas, establishment of national forests and parks, advancement of forestry by private endeavor, the teaching of conservation in schools and the promotion of research in timber growing and forest utilization.

The Association is independent and non-commercial, and has no connection with any federal or state governments. Its resources and income are devoted to the advancement of conservation in the interests of public welfare, and all citizens are welcomed to membership.

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THE FOREST EXCHANGE

"Salt" and "Pepper" Fan

SIR: I was so delighted with Sam Campbell's "Adventure With Porcupine" in the September issue of AMERICAN FORESTS that I turned it into a children's story for the benefit of the boys and girls of this Episcopal parish.

I shall certainly look with interest to further issues in the hope of reading more about Salt and Pepper as their years increase. — *Wolcott Cutler*, St. John's Rectory, Charlestown, Massachusetts.

Watch That Cigarette, Soldier

SIR: Today's trip from Miami to Chattanooga aboard a troop train convinced me, if one can judge the American soldier as the average American, that people do not realize a lighted cigarette can start a fire or that they cannot conceive the damage that may be caused by such a fire. Continually, lighted cigarettes were thrown through the windows with no thought of what might happen.

Cannot something be done to enlighten people to the possible destruction that may be caused by such acts? It seems a crime to let such a condition continue with no move to correct it.—*Warren Baldsiefer*, Chattanooga, Tennessee.

We Thank You

SIR: In sending a money order for three years' subscription to AMERICAN FORESTS, I would like to thank you for the "Tree Trail" and "Shade Tree" features, as well as excellent articles on other topics. I am glad to subscribe to a magazine put out by The American Forestry Association because it does much to support reforestation, the prevention of forest fires, and the education of the laymen to the value of trees and forests. I am glad to be a member of such a wonderful organization. — *William M. Bergman, 3rd*, Westport, Connecticut.

Pulling a Leg

SIR: The duties of a Forest Service officer are oftentimes strange and varied. An autoist on Highway 40 reported to Acting District Ranger James Wheeler of the Tahoe National Forest, California, that the body of a man was lying along the highway partly covered by snow.

Wheeler, true to his training in rescue work, loaded his car with blankets and first aid equipment, and hastened to the scene. He was shocked to see a foot

protruding from a snowbank. With utmost tenderness, he grasped the leg to set it in a more comfortable position and was horrified to see it swing freely in his hand. On examining the limb further, he was relieved to find that it was nothing but an artificial wooden leg that had become detached from its wearer.

Reported Wheeler to his supervisor, "This limb must be of value to someone, and the owner can claim his leg by calling and identifying same."—*C. E. Randall*, Washington, D. C.

Pinon Nut Situation

SIR: Prospects for the 1943 piñon nut crop for Arizona and New Mexico range from poor to good—slightly better than the outlook for last year.

In Arizona three of the thirteen reporting areas estimate good crop prospects. Of the remaining ten, three are estimated to be fair and seven poor to failure. The good crop areas are reported on parts of the Apache, Coconino and Crook national forests; the fair areas are on the Navajo Indian Reservation.

In New Mexico, ten of the twenty-six reporting areas estimate good crop prospects. The good crop areas are on parts of the Apache, Carson, Cibola, Gila, Lincoln and Santa Fe national forests, the Jicarilla and United Pueblos Indian lands, and the Sedilla, Los Diegos, and Upper Pecos soil conservation districts. There are fair crops on the Lindrith and Quay soil conservation districts.—*Raymond Price*, director, Southwestern Forest and Range Experiment Station, Tucson, Arizona.

Our Error—Sorry

SIR: That was an interesting article in the October issue of AMERICAN FORESTS by Elizabeth Forbes, "Planting Trees Was His Hobby," and we appreciate the advertising on the Izaak Walton League in mentioning that Dr. Frank Johnson was a former president of the League.

A careful check of our records indicates that while he was a member of the Glen Ellyn Chapter and a few years ago was given an honorary membership in that chapter, he was never an officer in the League, either in the chapter or the state division, to say nothing of being national president.—*Kenneth A. Reid*, executive director, Izaak Walton League of America.



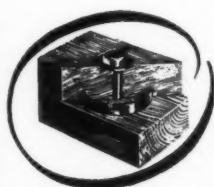
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THE EDITOR'S LOG

Merry Christmas!

There are many today, no doubt, who feel much the same as old Scrooge when he questioned the right and reason of his fellow men to be merry at Christmas. Why, they reason, should we be cheerful and observe Christmas when there is so much suffering and death throughout the world?

We can think of any number of reasons why we should cheerfully observe Christmas, not the least of which is the spirit of Christmas itself. Peace on Earth is the only hope of the peoples of the world today, including ourselves, and Good Will Toward Men is the one guarantee of that Peace when it is achieved. To ignore the day which symbolizes Peace and Good Will because of the present dreary circumstances of war and hatred, would be to blackout forever the Light which is guiding free men and women in their struggle for existence.

Let's keep this Light glowing, in our hearts and at our firesides. With this thought, we wish each and every one a Merry Christmas!

A Noteworthy Program

The recently announced conservation program of the General Federation of Women's Clubs is noteworthy in its realistic approach to our present natural resource problems. It recognizes, first, that judicious use of resources today means making them available for winning the war and, second, that there can be no lasting peace unless conservation practices are maintained and expanded.

Prepared by the Federation's Conservation of Natural Resources Committee, of which Mrs. T. M. Francis of Birmingham, Alabama, is chairman, the new program has the following objectives:

"To do all within our power to aid in making available the indispensable natural resources for winning the war; to become informed concerning the status of renewable and non-renewable natural resources; to sponsor programs and projects that will arouse remedial action to keep all renewable resources in continuous production and to prolong the life of irreplaceable natural resources as long as possible; and to promote the fullest development of natural re-

sources to aid in bringing about a just and enduring peace."

Under its suggested plan of work, the program advocates study of local, state and national conservation needs in regard to soil, water, forests, range, wildlife, recreation and the non-renewable oils, minerals, metals and gases. The availability of resources and the importance of research in their development and conservation are included in this study.

In the field of conservation in the schools, the plan suggests activities leading to improvement of study courses for teachers and in textbooks and other material available for both teachers and students.

Educational and demonstration projects suggested include "Federation Forests" in each state; community forests in all counties; indigenous plantings for roadside beauty; public forums, seminars and councils to educate the public consciousness to conserve resources; and special projects to emphasize the devastation caused by burning the woods and brush.

Mrs. Francis' committee leaves this potent thought with members of the Federation: "Become so conversant with what it costs our localities and nation to continue the prevailing wastefulness of our indispensable natural resources that you will work out the solutions. There will be no peace without the conservation of our natural resources, which are vital in solving social and economic problems."

To this, we give our wholehearted endorsement.

Threat to Olympic Spruce Eased

Announcement by the War Production Board that the logging of Sitka spruce from the Olympic National Park is not at this time necessary to meet war aircraft needs, comes as a welcome relief. It lifts the threat, acute since early in the year, to these magnificent forests and, more important, to the national park principle involved.

This decision, according to the WPB, resulted from a change in aircraft lumber requirements and an increase in the supply of aluminum available for aircraft production. Specifically, it was stated, the construction of C-76 cargo planes of wood has been discontinued, thereby diminishing the demand for aircraft

lumber in this country. It was made clear, however, that this situation may change, but in the opinion of J. Philip Boyd, director of the WPB's Lumber and Lumber Products Division, requirements for the last quarter of 1943 and the first quarter of 1944, so far as can be foreseen, can be met from supplies available outside of the national park.

Another reason for optimism in this respect is increased spruce production in British Columbia and, to an extent, the delivery in this country of high grade Sitka spruce from Alaska. This latter project, however, originally conceived as a monthly source of 10,000,000 board feet of spruce, has fallen short of expectations. In operation since 1942, it has delivered to mills on Puget Sound less than 7,000,000 feet.

This is not the fault of the U. S. Forest Service, in charge of the project. The trouble lies in an intolerable labor situation and in the failure of the government to allocate the necessary equipment, especially tugs capable of towing great rafts of logs 900 miles to Puget Sound mills.

F. D. R.—Tree Grower

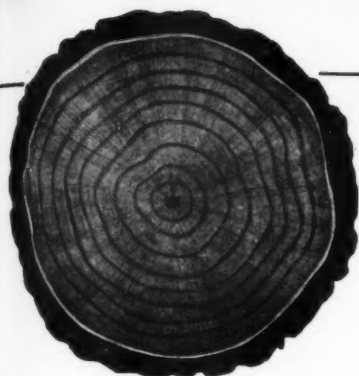
In the old town hall at Hyde Park, New York, Franklin Delano Roosevelt on November 2 officially became a tree grower by occupation.

Home to cast his off-year election ballot, the President, following traditional custom, was asked his name and occupation. "I think this time," he replied, "I'll say tree grower. I'm growing more trees than I am farming." In the past, he has described himself as a farmer.

Thus Mr. Roosevelt becomes the first President officially to record his occupation as that of a tree grower. Washington, Adams, Jefferson and Andrew Jackson were famous tree planters, but they did not make tree growing a business. President Roosevelt does and, happily at this season, one of his specialties is growing Christmas trees.

The Light That Did Not Fail

The recent sale in Westchester County, New York, of the famous Amawalk Nurseries brings to mind a scene enacted in Washington on Christmas Eve eighteen years ago. It was the lighting by President Calvin Coolidge of the first living National Christmas Tree, a ceremony



which nationalized the living tree idea and has since become the medium of the Presidential Christmas message to the nation. The tree, a gift of The American Forestry Association, was a forty-year-old Norway spruce. It grew to magnificence in the Amawalk Nurseries.

Here is the scene as reported in the January, 1925, issue of *AMERICAN FORESTS*: "As the President pressed the button turning on hundreds of lights, similar trees were illuminated all over the country, and the custom of planting a living tree became nationalized for use at Christmas time in villages, towns and cities throughout the United States. . . . In presenting the tree to President Coolidge, George D. Pratt, president of the Association, expressed the hope that the use of the living tree would become more and more general, following the excellent precedent set by the head of the Nation. The American Forestry Association has inaugurated the campaign urging the use of living Christmas trees as a conservation measure and one in harmony with the early significance of the Christmas tree—'The sign of endless life, for its leaves are evergreen'."

The living tree idea quickly took root, and when the lights go on again with the peace that must come, their brilliance will flash a joyous tribute to the historic tree of Amawalk.

Don't Bring Parrots

Don't ask service men to bring you a parrot when they return from overseas. It's just inviting trouble. Parrots, it seems, and other members of their family, have a way of becoming infected with the dread disease, psittacosis, and this is enough to make entry in this country difficult. Indeed, some states will not allow them to be brought within their borders, psittacosis or no psittacosis.

New York, for example, along with Maryland, Connecticut and Florida, will not permit the importation of

parrots or any of their relatives even for scientific purposes. And to keep the relatives in line, they are listed as Amazons, Mexican double heads, African grays, cockatoos, macaws, parakeets, lovebirds, lorries and lorikeets, among others.

The federal government is a bit more lenient, and will permit three or less parrots to be brought into the country without an importation permit provided they have been in the possession of the owner for two or more years. Importation permits are required, however, for birds newly acquired or which have not been in the same ownership for the required period. Permits are issued by the Fish and Wildlife Service of the Department of the Interior.

Because they might prove injurious to the interests of agriculture and horticulture, there are other birds—and some animals—which cannot legally enter the United States under any circumstances. Here are a few, in addition to parrots, not to ask for: Chinese myna, European yellowhammer, fruit bat and Pharaoh's rat.

Wood From Head to Foot

Among the less grim shortages from which the people of occupied Europe are suffering is leather. As a consequence, wooden shoes, the *sabots* of the European farmer and factory worker, have spread to other classes of the population. At the same time, if we can believe reports from France, wood is being introduced in—of all things—hats for ladies.

According to a publication of the Norwegian Government in Exile, a German order was placed with a factory in that country for shoes with wooden soles and glazed paper tops—no doubt for the "luxury" trade. The Norsemen made the shoes, 30,000 pairs, with red, white and blue paper tops—a color combination the Nazis find offensive. The whole lot was destroyed.

From *Le Soir de Lyon* comes the information that the women of France are trying to maintain their traditional *chic* in spite of both Nazis and shortages. Reports this newspaper: "This season there is to be a great novelty in hats: they are to be wooden models."

Unfortunately, the fashion editor did not give specifications for wooden hats—or perhaps women's hats

have no specifications. At any rate, no information is available as to whether they are created from natural wood, plywood, pulpwood, or wood in some other form. We feel sure, nevertheless, that if they are designed by a French milliner and modified by their wearers to meet individual requirements, which it is said French women always do, the results will be esthetically satisfying.

Fire vs. Lumber Barons

Stewart Holbrook, in his new book, "Burning an Empire," a saga of American forest fires, comes up with a new and interesting theory on the disappearance of commercial forests and forest industries from regions of the Lake States. Heretofore, the present unproductive condition of certain forest areas in that region has been pretty generally attributed to the carefree era of the lumber barons whose logging practices gave birth to the phrase "cut out and get out."

Writes Mr. Holbrook: "The lack of more and better forests in Minnesota today is due less to cutting than to repeated fires which have swept the region year after year. If fire had been kept out of this area, there would be no reason, so far as producing-forests are concerned, why its economy today should not be founded almost wholly on forest products."

The author blames some lumbermen for leaving slash in the wake of cutting operations, but asserts that "far greater guilt" belongs to "the settler, the homesteader, the pioneer."

Of a long series of Wisconsin fires, Mr. Holbrook has this to say: "From the viewpoint of effect on Wisconsin's future economy, the fires of 1894 were doubtless the most destructive single series of fires the state has ever known. And they were a large factor in putting Wisconsin out of the lumber business."

Forest fire has a way of putting everything in its path out of business—and this doesn't apply only to the Lake States. Fortunately, lumbermen today realize this and do something about it. Whether or not the early barons were too busy with their logs and profits to tackle the fires, Mr. Holbrook doesn't say. We suspect that they were.

Orin Foster

FORESTS UNDER HITLER

By P. L. BUTTRICK

Mr. Buttrick has had access to a mass of information from war-torn Europe, much of which has not heretofore been made public. This, plus his past experience as a forester in parts of Europe, enables him to present a graphic account of the role forests are playing in this war. Obviously, all sources of his information cannot be revealed, as much of it was brought out of the occupied countries across charged wires, mine fields and perilous waters by persons whose identity must always remain unknown.—Editor.



FROM the vast torture chamber that is Nazi occupied Europe, some news escapes. It comes from newspapers, magazines, stolen documents, uncensored letters, and from refugees that somehow get across frontiers. It is mostly in dribbets, small items that in themselves mean little. By collecting and analyzing a mass of such items, however, it becomes possible to draw reasonably accurate conclusions as to the part forests and their products are playing in the war and what is left of the civilian economy, and of the effects of the war on the forests themselves. These conclusions may be briefly summed up as follows:

The forests are suffering from battle damage and general abuse, including deliberate sabotage to hinder Nazi and Quisling operations. They are feeling the results of heavy overcutting, which would be even greater if the "master race" could capture enough willing slaves and solve its transportation difficulties. Abuse, other than overcutting, is greatest in military zones and where armies or civilians are "taking to the woods" in occupied countries. Forest fires apparently are more numerous and destructive than in peace times.

Europe, including Germany, is suffering from a famine in forest products. Trade in these products is completely under Nazi control and carried on only with a view to assisting their war effort. Germany is definitely worried about overcutting in her own forests, though there is no evidence of her being so concerned in the rest of Europe. She is still attempting to cut in accord with forestry practices. Some of her satellites and the

Battle destruction of forests in World War I. Is this tragic devastation being repeated in the present conflict?

occupied countries, still retaining vestiges of self government, seem to be trying in an ineffectual way to do likewise.

The Nazis are continuing research in utilization, chiefly along the line of wood chemistry to develop production of proteins and sugars for livestock and human food, for lubricants, for improved cellulose textiles, and to increase the efficiency of wood fuels for motor vehicles. They are also using confiscation, depreciated currency and general skulduggery to transfer ownership of important forest areas and industries in the occupied countries to their own government and nationals.

Probably the last stages of the war will see a breakdown of the system of slave labor and overcutting will decline. But damage to the forest by actual fighting and other abuses may increase. When peace comes, and the huge task of reconstructing a continent begins, the forests of western Europe in all probability will be unable to fulfill the needs for reconstruction timber.

The damage to forests in battle zones is in proportion to the size and fire-power of the opposing armies and the length of time in which they are engaged. In World War I, battle lines were locked in a zone only a few miles wide stretching from Switzerland to the North Sea. Some of this terrain was forested in 1914, but after four years most of the woodlands had been literally pounded to pieces. Somewhere in the neighborhood of a million acres was so destroyed.

In this war, fighting has been more fluid, except perhaps along the northern front of Russia. Forest destruction there is doubtless appreciable since much of the region is forested. Elsewhere the Nazis blitzkrieged along roads and through largely open country.

It does not now seem likely that the United Nations can repeat the German blitzkrieg in reconquest, nor that lines will stabilize long enough in forest areas to completely wipe out large forests, but the greater use of tanks and heavier artillery in this war may cause more devastation in less time.

The destructive magic of aerial bombardment has fallen as a technological curse over all Europe. There are reports of British attempts to burn German forests by use of incendiary bombs. Explosive bombs have been showered on forest areas to destroy enemy personnel and installations. When such bombardment is intensive, localized destruction may be complete and start fires that extend beyond the area bombed. On the whole, however, extensive forests are not likely to be destroyed by explosive bombs. The military advantage would not justify the expenditure of effort.

To approach the extent of forest damage by general abuse, it is necessary



Forests as refuges. Above, Norwegians seeking shelter from bombs. Below, tree shields a Belgian from strafing

to consider how forests are providing refuge for thousands of oppressed people of the occupied countries—men who are sustaining life while awaiting the opportunity to strike back at their conquerors. This is not new. From time immemorial, persecuted men have taken refuge in the forests and mountains, there to live solitary lives or to organize themselves in small bands for mutual protection.

In the early days of the war the forest served as a temporary haven for strong men seeking to escape to allied countries to renew their individual fight against the Nazis. Poles escaped through the Balkan forests to join the British in the Near East. Frenchmen treaded the woodland trails across the Pyrenees to Spain as the first step to joining General DeGaulle's Fighting French. Norwegians followed ski trails across the forested mountains to Sweden with the hopes of later finding their way to Norwegian Army centers in Britain.

The saga of two young Norwegians who escaped into Sweden and thence through the deep Finnish forests to Russia and later America, exemplifies not only supreme love of freedom, but consummate woodsmanship. In their escape they had to evade four sets of frontier guards, cross the Russo-Finnish battle zone, wade swamps and live off the country through which they passed.

In the campaign of 1941, the Germans forced almost the entire Yugoslav Army, remnants of the Greek Army, and some British detachments to take refuge in the forest of Yugoslavia and northern Greece. They are still there, offering resistance, tying up increasing numbers of



Nazi troops. A German official has obligingly provided an eye-witness account to the Nazi press of the part the forest played in one of the Nazi's many futile attempts to dislodge the Yugoslavs from their mountain sanctuary. He writes: "They (the Yugoslavs) wanted at any price to prevent our troops from finally destroying their forces. There had been a heavy fall of snow. We had to pass through practically virgin forests, and the enemy had blocked and destroyed the road so as to cut off our troops from food and munition supplies. They had felled trees of over a hundred feet tall and built barricades along the road for a length of six miles. This was where our pioneers got to work. They had to do a hard job under fire from the enemy. With a motor-driven saw they cut a long corridor through the felled trees and our troops were able to advance through this wooden defile."



To continue their fight against the Nazis, patriots are taking refuge in remote forests—such as this one in Norway near the Swedish frontier

The heroic services of guerrillas and civilians left behind in the forests by the Russian retreat are well known but the remnants of the Polish Army, hiding in the deep woods of Poland awaiting the zero hour to attack their one-time conquerors, have received little publicity. Their day will come.

When, in the autumn of 1942, the Nazis occupied all of southern France, many of the demobilized Vichy soldiers sought refuge in the forests, taking their arms with them whenever possible. There they found many young men who had left their homes to avoid the labor draft in Germany. They have since been joined by many more. After the surrender of Italy these mountain bands in the French Alps were joined by an estimated 5,000 Italian troops who demobilized themselves rather than return to Italy.

The great drawback of forests and mountains as refuges is that food resources are limited. The refugees must depend on supplies from outside, obtained by gift, barter, or raiding expeditions. The Vichy authorities are trying in a half-hearted way to stop the flow of provisions to the refugees. Let an account which came through the French underground press tell a story typical of many others:

"Men who had taken refuge in the mountains of the Massif Central so as to escape deportation, sent some young men into the neighborhood of Darlanc, unarmed, to get provisions. They were arrested by the gendarmes. A few armed men went to the barracks and demanded

their release. This was refused. In the discussion that followed, a gendarme wounded the leader of the band who retaliated: Result, one gendarme killed, two others wounded, the prisoners set free, and the remaining gendarmes taken off to the mountains as captives. The following day the militia were sent with police dogs to search the woods. They returned without finding anyone. The dogs did not come back."

The French Alpine region between the Rhone River and the Swiss and Italian frontiers is the largest refugee area in France. There are estimated to be 14,000 armed men hiding in this region. Another group is in the mountains of central France centering in the famous Millyache Plateau. Other smaller bodies are located in the Pyrenees and in the mountains of Brittany.

All these groups are in contact with the outside world by radio, airplanes and underground sources. The allied governments are reported to be furnishing them with weapons and other supplies and they are being organized into more or less formal military groups, awaiting the day when allied landings make it practicable for them to swarm out of the forests and attack the Germans in the rear, as they recently have done with quite satisfactory results in Corsica.

Even in Germany people by the thousands have taken temporary refuge in the forests following heavy Allied bombing of large cities. Doubtless as the war goes on both Germans and forced laborers from other countries will take to the woods with the intention of staying there until the conflict is over. The following recent item from a German news agency may indicate an indirect Nazi attempt to nip a problem in the bud: "People on holidays who try to climb mountains without proper gear may henceforth be sent to prison for six weeks or fined 150 reich marks under a decree of the Bavarian Minister of the Interior. This is necessary to prevent people running unnecessary risks in wartime."

The flight of thousands of people into the forests is welcome news of the approaching breakdown of the Nazi regime, but it can scarcely do the forests any good. It will result in miscellaneous cutting for shelter and fuel, disrupt orderly and long established management and increase forest fires.

Indeed, there have been reports of extensive and damaging fires in France, Belgium, Holland and the Balkans, and indirect evidence of the same thing elsewhere. Whether they result from campfires and careless matches of the refugees, or from deliberate sabotage to worry the Nazis, is unknown. Nor is it possible to say definitely that forest fires



The forest, Nature's best camouflage, conceals both engines of destruction and their victims. Wholesale bombing of large forest areas does not pay

have been more numerous and damaging than before the war, though it is highly probable.

The most extensive fire data is from France. From March to August 1943, at least fifteen fires occurred which were large enough to be announced over the French radio or reported in newspapers. The total area reported as burned—which is large for France—exceeded 20,000 acres. The largest fire was in the Landes, the famous pine forest region south of Bordeaux. The fact that no fires were reported from France in August or early September may mean either that there were none or that a censorship was applied to fire news. Judging from the following editorial in the July 20 issue of *La Croix*, a Vichy controlled newspaper, the silence hints of censorship: "Arson is responsible for the extensive forest fires in the south of France in more cases than is believed. Fires are started by all kinds of individuals: Woodsmen trying to depreciate the value of the wood so as to buy it at a reduced price; shepherds wanting to obtain cheap pasture; jealous neighbours; those who destroy for the mere pleasure of destruction, etc. Not only have few people been arrested, but those who have been, were let off with ridiculously light punishments."

The editor of *La Croix*, could not, of course, say that sabotage of Nazi war efforts were responsible. But the Belgian Information Service in America interprets a serious outbreak of fires in that country to be acts of sabotage. The Germans, it would appear, hide munition dumps in Belgian forests—and contact of a forest fire and a munition dump is of no aid to the "Herrenfolk". Sabotage is not confined to embarrassing the Germans, but extends to Belgians who assist them. The underground paper, *Union Belge*, printed the following practical advice to saboteurs: "If a farm is burned down by unknown persons, it is no great loss to the farmer. The insurance company pays the damage. If the farm is burned by a group of masked men it is termed a riot and the insurance company pays nothing."

In all occupied countries reports of mysterious fires in sawmills and other forest product plants are common. The Germans do not like to use the word "sabotage", but their controlled press is constantly fulminating against carelessness with fire and, in typical Nazi fashion, threatening at the same time. Listen to this from the *Deutsche Zeitung in den Niederlanden*: "The number of fires (in Holland) caused by negligence is terribly high. Children were responsible for eighty-nine fires and thirty-seven fires were caused by careless handling of burning pipes, cigars, cigarettes, or matches. During the weeks of sunny

spring weather, fires were caused daily by carelessness in wood and heath. Every fire diminishes national property and whoever causes it therefore steals from his people. In the course of nine months 126 fires were proved to have been caused by negligence, which means that 126 persons were sentenced to imprisonment or fined, as negligence will relentlessly bring punishment."

Everywhere deficiency of manpower makes forest fire control difficult. Germany apparently does not give out fire reports but there is indirect evidence of their occurrence on a more than usual scale in the following press report: "In

at least, the available firewood supply has been much reduced. Shortages of props have more than once closed mines, most of which seem to work at low efficiency because of an insufficient supply. Coal production appears to be below normal everywhere in Europe. An overstrained railway system cannot move the required volume of either coal or wood in sufficient quantities to distant points. Fuel of all kinds is severely rationed.

While reports of fuel shortages come from all the countries of Europe, it appears to be most critical in Norway. This is due to a number of factors, one of which is that Norway has no coal de-



Although mechanical warfare usually swings along highways and through open country, there is still war in the woods. This is a Finnish camp

hundreds of cases the work of the Hitler Youth fire-fighting squads has prevented the worst from happening in the case of accidental fires, air raids and forest fires. Since the outbreak of war, 700,000 boys have been trained in fire-fighting. Many of them have since joined the armed forces, but replacement and the continuation of training are assured."

To say that fires, along with forest destruction in battle zones and the great demand for wood to feed the Nazi war machines, are creating serious wood shortages in Europe is to put it mildly. Europe is a continent of shortages. There is a shortage in everything except suffering, death, hate and courage. Next, perhaps, to food, shelter and clothing shortages, a fuel scarcity bears hardest on the general population. Wood in the raw state and as charcoal is a far more important domestic fuel in Europe than in the United States. It is used on a large scale for cooking and heating. Also, to mine coal it is necessary to use wooden props, and wood derived gases and liquids substitute for gasoline.

So great is the demand that in France,

posits of consequence. All imported coal must come by sea, and the limited supply that gets through British patrolled waters is reserved for German use. Then, too, the labor situation seems to be worse in Norway than elsewhere.

Neutral Sweden also lacks a homeland coal supply. Authoritative reports indicate even two winters ago she had to burn pulpwood to alleviate a fuel shortage brought about by Nazi inability or refusal to supply her with normal coal imports. An article in the *Swensk Papp Tidn*, written in 1942, states the situation. It said: "During the crisis pulpwood has been used in Sweden to a considerable extent as fuel. The Fuel Commission estimates last year's consumption for this purpose at approximately 2,000,000 cubic meters (stacked). Felling of pulpwood must be increased and at the same time consumption of fuel wood must be restricted."

The writer gained some idea of what the search for warmth means to city dwellers in France from a sad-eyed French woman who managed to get to America in the fall of 1942. The sale of

firewood, she said, was forbidden in Paris and other large cities. If a householder happened to have trees in his yard or garden, he could cut them for firewood. In the rural districts at that time firewood could still be bought if one had the price. Most of the sales were on the black market. She mentioned a price of 2,500 francs for less than a cord at Toulouse. Estimating the purchasing power of the franc at two American cents, this is about sixty dollars a cord. Woodland owners desiring to transport firewood either for sale or for their own use, may not use motorized vehicles to do so.

The fuelwood situation is also bad in the Balkans—so bad, in fact, that some of the governments there apparently have been obliged to make concessions to avoid political disturbances. The Romanian government has never been noted for solicitude toward its common people. Therefore, recent notes in the Romanian press to the effect that freight cars are to be made available for fuelwood transportation on easy terms, and that war widows and orphans are entitled to firewood free or at half price, are of some significance.

The fuel shortage extends to Germany, even though she can draw on all of Europe, so far as labor and transportation permit. In some parts of Austria the wood shortage seems to be greater than the coal shortage. Early this year the mayor of Villach called on the inhabitants to substitute coal for wood as fuel. It was stated that subsidies would be granted for converting wood to coal-burning stoves.

In the cities the average family is unable to help itself by cutting its own wood but in besieged Leningrad, which is adjacent to large forest areas, it is reported by the Moscow correspondent of the *New York Times* that 10,000 women have been employed in the woods near the city as fuelwood cutters. Since little or no coal can reach the city, their work has enabled it to live through both the siege and the long Russian winters.

One reason for the bitter shortage of domestic fuel, both wood and coal, is the lack of gasoline. Even in peace time Europe is not self-sufficient in this commodity, and long before the war Germany was experimenting with coal-derived liquid fuels and France had developed wood gas generators for operating internal combustion engines. One system uses wood in the form of charcoal, the other generates gas directly from small chunks of wood. Both are commonly called gasogenes. So great is the demand for wood for wood-consuming gasogenes that this use has a priority over domestic wood fuel.

Thousands of military and civilian vehicles are now operated on these substi-

tute fuels, and more are being converted to their use. It is sometimes impossible to tell from accounts whether conversions are for wood gas or for coal gas use. In Holland, and probably elsewhere, wood gas engines are used to propel small vessels used for fishing and in the coastal trade. They are also employed on railways to some extent for switching, and probably for other low-tonnage engines.

Germany seems to be converting to wood gas as fast as possible. A Swedish journal reported last April that all Nazi motor trucks must be converted. About the same time an Austrian paper reported that conversions were behind schedule. German pressure on Switzerland recently compelled the Swiss to convert 2,000 German trucks for the use of wood gas. The initial demand apparently was for 40,000 such conversions.

The Pétain government in France appears to have made considerable progress in the development of charcoal supplies for gasogenes, if we are to believe the following from the *Deutsche Werke-Zeitung*, published in June: "When in July 1941, the Interdepartmental Economic Committee resolved to build roughly 100 charcoal kilns, the quantity to be produced was calculated at approximately 200,000 tons annually for the 100 factories. After two years' work, sixty-five of the establishments have been finished. Others will be completed within the next three months. The present production of charcoal is already estimated at approximately 10,000 tons per month, or sixty percent of the quantity demanded by the plan."

This implies a production of about 200,000 cords of wood annually to keep the kilns operating at capacity. Considering the large area of hardwood forests in France, this is no very astounding figure. According to a recent issue of the *Foreign Commerce Weekly*, France at the end of 1940 had 7,500 producer-gas vehicles in operation. By the end of 1942, this number had grown to 102,000. Whether all were wood gas was not stated. In any event, wood motor fuel is severely rationed—as indicated by this grim joke taken from the French underground press: "What do you use in your gasogene?" "We are now using our Henry II sideboard, but it does not give as good mileage as the Louis-Philippe one we used before."

A recent report from Denmark states that wood is so scarce there that gasogenes are being reconverted to utilize coke. Nevertheless, the present development of wood gas as a motor fuel makes it probable that it will find a permanent place in European economy.

Another shortage to which there is frequent reference in the European press is that of lubricants. Here again wood

comes to the rescue—at least to some extent. Many references to substitute lubricants fail to state of what they are made, but the following from the French press is clear: "Alipol" is being produced from rosin. The preparation has been used for lubricating textile machinery and is said to have given satisfactory results." *Radio Paris* in June, 1943, said: "Last year 16,000 tons of substitute lubricants were produced, covering about thirty percent of requirements. This year's production will amount to roughly 40,000 tons, increasing by 1944 to 65,000 tons, thereby approximately covering our demands." France would be in a better position to supply lubricants derived from resinous trees than most other European countries, because of her extensive naval stores industry. Incidentally, "Alipol" means "oil derived from Aleppo pine."

Germany also is experimenting with wood-derived lubricants. They seem to be made largely by chemical breakdown of wood in conjunction with the obtaining of other wood chemical products.

Another wood product of which there is universal shortage is paper. It is probably worse elsewhere than in Germany, but its severity there is indicated by the fact that in June all advertising circulars were forbidden, newspaper advertisements were restricted to five lines and obituary notices to seven lines. About the same time postal regulations were modified so that letters and printed matter could be mailed without envelopes—simply by binding them together with adhesive tape.

Manufacture of many paper articles has been prohibited. The list includes large labels, silver-bromide postal cards, bread wrappers, bookmarks, market bags, pocket calendars, paper and pasteboard for lampshades, sewing boxes, stage money, spiral notebooks, wall mottoes and other inscriptions and greeting cards.

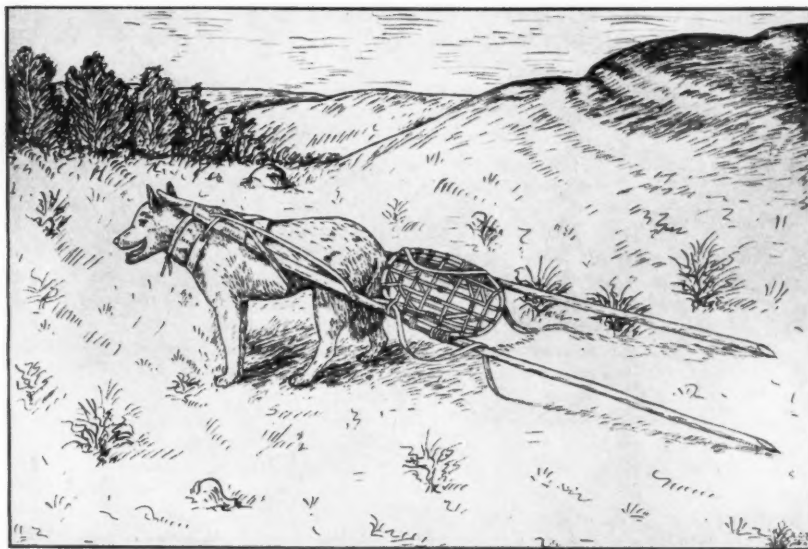
Fuel as well as labor shortages affect paper production. The Berlin correspondent of the Swedish newspaper, *Svenska Dagbladet*, in June wangled a dispatch through the Nazi censors stating that production in Germany's largest paper mill had been reduced because of fuel shortages. There are also reports of pulp mills in Norway being closed down for the same reason. Paper production in France during 1942, according to Swedish accounts, was about one-third normal. It will probably be even lower in 1943, since the loss of North Africa has cut off the import of esparto grass, an important raw material for the French paper industry.

Everywhere there is severe rationing of all kinds of paper and forced collection of paper waste. Concerning the latter (Turn to page 601)

WHAT WAS THE EARLY INDIAN DOG?

Wolf or Hound—Or a Little of Each? New Light on an Age-Old Riddle

By STANLEY P. YOUNG



Old sketch of an Indian dog drawing a Travois

THE American Indian, as most every student of history knows, had his dog—often large numbers of them. They served, if we accept the observations of early writers, a variety of purposes. There were dogs massive and savage enough to give battle to a buffalo bull; there were dogs strong enough to haul heavy loads; and there were dogs which served no other purpose than to be fattened for food.

The origin and breed of these animals have long been matters of debate. Some pictured the early Indian dog as a domesticated wolf; others held that it was the result of the wolf's breeding with domestic dogs, though there is still doubt concerning this, as well as opinion that a female hybrid of such a cross is sterile. However, the weight of evidence when the history of the Indian dog is thoroughly explored points to both arguments. It seems likely that wolves were domesticated by the Indians for use in packing and drawing supplies; and it is strongly probable that much interbreeding took place between the domestic dog and the wolf.

That the latter is possible, despite argument to the contrary, is given credence by Topsell's observations early in the seventeenth century. He records that some of the last wolves in England were

held in captivity in the Tower of London "to be seen by the Prince and people brought out of other countries, when there fell out a rare accident, namely, a mastive dog was hined to a she wolfe, and she thereby conceived and brought forth sixe or seven young whelps, which was in the year of our Lord 1605, or thereabouts."

Assuming that interbreeding between the wolf and the domestic dog of the Indian was probable, even likely, this question immediately arises: What was the domestic dog, and where did it come from? It is believed that the first true dogs in America were descendants of European dog families, brought to the continent from Asia by way of Alaska by followers of the red Mongoloids, first people of North America. How closely the prehistoric animals, believed to have been of medium size, resembled the dogs observed by the earlier explorers is not known, of course. Interbreeding even at that time had left its mark, and by the middle of the eighteenth century the true Indian dog had all but lost its identity.

Probably the earliest picture of dogs around Indian camps was given by Coronado in 1541 on his journey into Kansas. He observed "great dogs which will fight with a bull (referring undoubt-

edly to the buffalo) and will carry fifty pounds weight in sacks when they (the Indians) go on a hunt or when they move from place to place with their flocks and herds."

Shortly thereafter, in 1577, Frobisher made this interesting reference to the Eskimo dog: "They frank or keepe certaine dogs not much unlike wolves, which they yoke together as we do oxen and horses, to a sled or traile: and so carry their necessaries over the yce and snow from place to place. . . . And when those dogs are not apt for the same use: or when with hunger they are constrained for lack of other vituals, they eat them, so that they are as needful for them in respect to their bigness as our oxen are for us."

If, as Coronado noted, some Indian dogs of the plains would carry fifty pounds, they must have been comparable in size to the large Eskimo dogs of the Arctic. A fifty pound pack was generally the maximum weight these dogs of the North carried in cross-country travel, although Grinnell has observed that some Eskimo dogs are large enough to carry a hundred pounds. Accepting the general belief that the true dogs of the plains Indian were of medium size, the conjecture is that some of the larger ones used for dray animals—usually



**Did the Indian domesticate the wolf?
Here's one, center, in Alaskan team**

dragging a travois—were hybrid wolves.

Catesby early observed that "Wolves were domestick with the Indians, who had no other dogs before those of Europe were introduced, since which the breed of wolves and European dogs are mixed and became prolific. It is remarkable that the European dogs, that have no mixture of Wolfish blood, have an antipathy to those that have, and worry them whenever they meet; the Wolf-Breed act only defensively, and with his tail between his legs, endeavors to evade the others' fury."

Brackenridge, while on a journey up the Missouri River in 1811, wrote about the dogs at the Arikara Indian village. "The dogs, of which each family has 30 or 40, pretend to make a show of fierceness, but on the least threat, ran off," he observed. "They are of different sizes and colors. A number are fattened on purpose to eat, others are used for drawing their (the Indians') baggage. It is nothing more than a domesticated wolf."

Chittenden described the Indian dog as "a long slender, wolfish animal, whose general appearance clearly denoted its consanguinity with the cowardly denizens of the plains." Townsend refers to it as a savage "wolf-dog." Alexander Ross, while in the vicinity of old Fort Edmonton in northern Canada, observed that the dogs "are in general of the wolf-breed, and are said to be vigorous and long-winded:—a hundred miles a day is a common journey for them."

Washington Irving found Indian dogs "of all size and colors; some, of a superior breed, are used for hunting; others, to draw the sledge, while others, of a mongrel breed, and idle vagabond

nature, are fattened for food. They are supposed to be descended from the wolf, and retain something of his savage but cowardly temper, howling rather than barking; showing their teeth and snarling on the slightest provocation, but sneaking away on the least attack."

Joseph H. Batty, who at times was associated with the Hayden Surveys, in writing of the western plains Indians, made these observations: "A great number of dogs are seen in every Indian village, though we saw more with the Crows than with any other tribe. There are no pure blooded dogs, nearly all being crossed with the wolf. . . . The dogs fight savagely, much to the delight of the young bucks, who never separate them, but let them fight it out. The Indians make an article of food of their dogs, and tan their skins for mats. They also use them to haul sledges and carry light packs."

According to Kurz, "Indian dogs differ very slightly from wolves, howl like them, do not bark, and not infrequently mate with them." He refers to the Indian dog as a wolfhound. "Indians make use of their dogs as beasts of burden and as guards, never for hunting, because their baying and howling would betray the huntsman to lurking foes. Moreover, these wolfhounds are too wild to be good rangers and therefore useful on the chase; they hunt out every living thing that they might be able to catch with their teeth. . . . Dogs are by far the best animals to draw sleds over the snow. . . . It is estimated that a dog, traveling at the rate of from 30 to 40 English miles a day, can haul a load weighing seventy pounds, and can carry a load of 50 pounds."

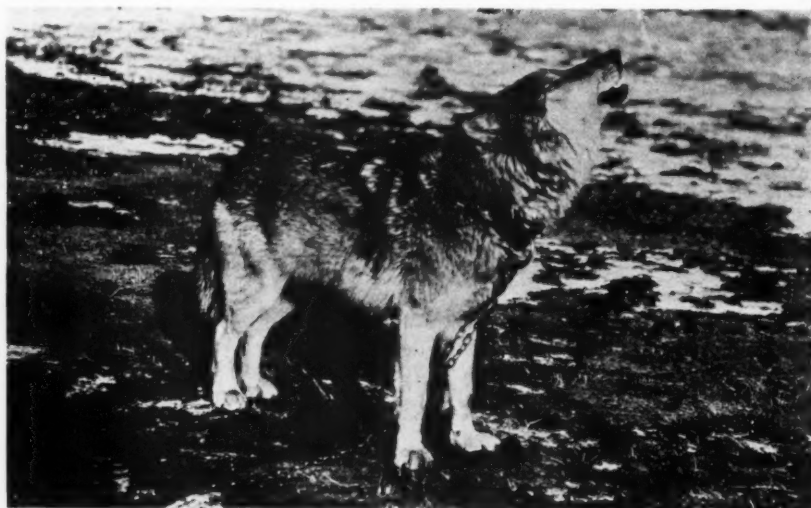
Maxilian, Prince of Wied, noted that "The dogs, whose flesh is eaten by the

Sioux, are equally valuable to the Indians. In shape they differ very little from the wolf, and are equally large and strong. Some of them are real wolf colour; others black, white, or spotted, and differing only by the tail being rather more turned up." Pierce recorded that "Hybrid wolves have always been very common along our western frontiers. I have seen several of them sired both by dogs and wolves, and all I have seen have resembled wolves rather than dogs."

Ash goes back to 1605 to cast revealing light on the early North American dog-wolf relationship. Quoting James Rosier in *The Last Discovery of the North Part of Virginia*, he wrote: "Griffon on his return reported two or three savages, every one with 'bowe and arrowes with their dogges, and wolves, which they keep tame at command'; and in his 'briefe note of what profits we saw in the countrey yeald in the small time of our stay there' he gives a list of 'Beasts' in which wolves occur and 'Dogges': 'some like wolves, some like Spaniels'."

Of the so-called black wolf-dogs of the early Florida Indians, Ash wrote that they "were higher at the shoulder than a Newfoundland dog . . . were shorter in the body and very like a wolf, except that the eyes were nearer the muzzle." According to Lawson: "The Wolf of Carolina is the Dog of the Woods. The Indians had no other Curs before the Christians came amongst them." Kalm recorded of the wolves of early colonial Pennsylvania, "there are instances of these wolves being made as tame as dogs."

Commenting on the Esquimaux dog, Ash stated that "Sir J. Franklin informs us that the Indians attached to one of his



Many early Indian dogs closely resembled wolves, even howling. Did the Indian crossbreed for greater stamina?

expeditions, upon destroying a female wolf, carried away three of her whelps to improve their breed of dogs; and that in March the female grey wolves frequently entice the domesticated dogs from the huts." Colonel William Byrd, writing about the wolves in Virginia, said in 1728: "The Indians know how to gentle their whelps and use them about their cabins instead of dogs."

Whether the wild wolf was actually raised from puppyhood by the Indians of the plains for a variety of purposes is a matter of personal opinion. There is, however, ample evidence to be found in the journals of early plains explorers that it was not uncommon for Indians to dig wolf whelps from dens. To what use these whelps were put is difficult to determine. Possibly the pups, on maturity, were used to some extent for breeding with Indian dogs, or killed when in prime season for their pelts.

Apparently the crossbreeds made desirable animals for the Indians. According to Ross, "a cross between a male wolf and a domestic bitch makes an excellent breed. The offspring are hardy, docile, and strong, easily fed, and capable of enduring great fatigue." R. MacFarlane, at one time Chief Factor of the Hudson's Bay Company, stated that "Indians have known of instances where . . . wolves and some of their dogs have mated, and they have always found that the resulting offspring were not only prolific but also better and stronger as beasts of burden."

While among the Flathead Indians of the Northwest during the winter of 1812, Cox noted "That the wolves of this district are very large and daring; and were in great numbers in the immediate vicinity of the fort. . . . We had a fine dog of mixed breed, whose sire was a native of Newfoundland, and whose dam was a wolf, which had been caught young, and domesticated. . . . He had many encounters with his maternal tribe, in which he was generally worsted. On observing a wolf near the fort, he darted at it with great courage; if it was a male he fought hard; but if a female he either allowed it to retreat harmless, or commenced fondling it. He sometimes was absent for a week or ten days; and on his return, his body and neck appeared gashed with wounds inflicted by the tusks of his male rivals in their amorous encounters in the woods. He was a noble animal, but always appeared more ready to attack a wolf than a lynx."

Wolves being as prevalent as they were among the early plains Indians, it is not improbable that, raised from puppyhood, they could be taught to drag a load of camping effects with the same trustworthiness as they are known at times to do with sleds in the North. Alexander Henry, the younger,



An alert quarter-breed wolf, shown by experiment to be the most valuable animal descending from the wolf-dog cross

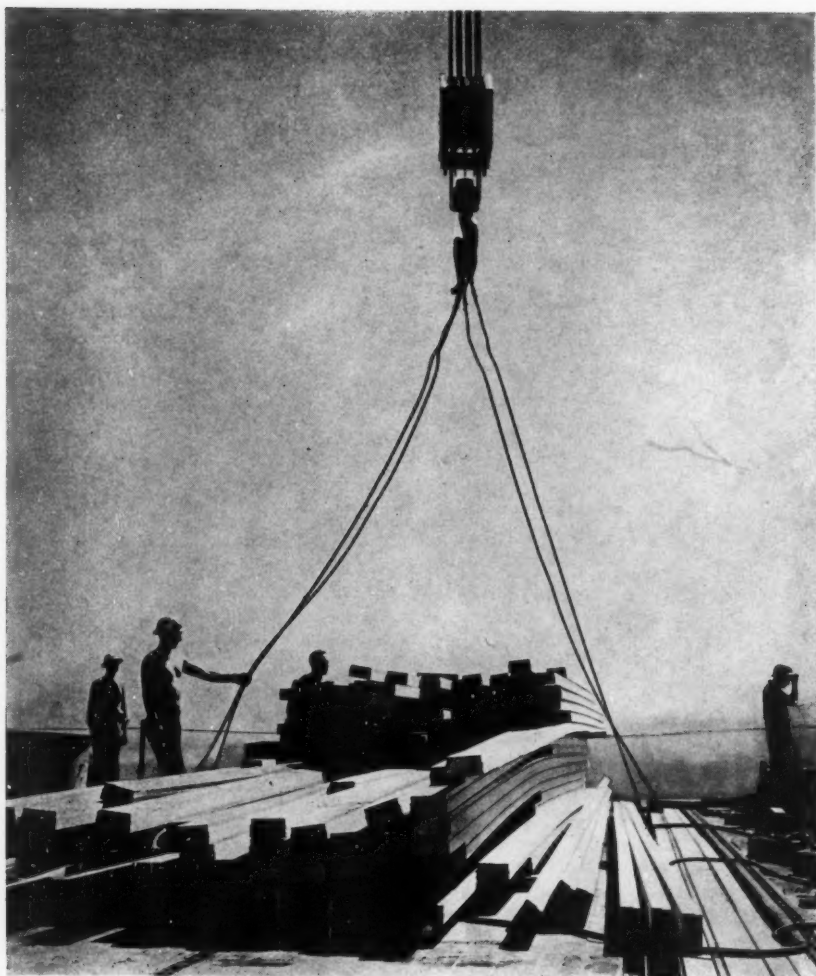
wrote in his journal that while in the vicinity of Fort Dauphin in west central Manitoba in 1801, "another of my men brought in six young wolves he had found in one hole; they were very tame, and we proposed to keep them for the trains, as they are of the large species." No doubt the "trains" mentioned were dog trains, used either as packers or for drawing sleds.

Approximately forty years later, Audubon, at Fort Union, verified the employment of hybrid wolf-dogs as draught animals by stating that he "saw hybrids, the offspring of the wolf and the cur dog, and also their mixed bloods: some of which resemble the wolf, and other the dog. Many of the Assiniboine Indians who visited Fort Union during our stay there, had both wolves and their crosses with the common dog in their trains, and their dog carts . . . were drawn alike by both."

Audubon further recorded that "once, when we were travelling on foot not far from the southern boundary of Kentucky, we fell in with a Black Wolf, following a man with a rifle on his shoulders. On speaking with him about this animal, he assured us that it was as tame and as gentle as any dog, and that he had never met with a dog that could trail a deer better. We were so much struck with this account and the noble appearance of the wolf, that we offered him a hundred dollars for it; but the owner would not part with it for any price."

But back to the Assiniboines in southern Canada, Alexander Henry, Esquire, mentioned being followed by a thousand dogs on his tour of a village of about 200 tents, containing from two to four families each. Wolves were very common in this region, and no doubt wolf-

(Turn to page 594)



ESCORT aircraft carriers, the miracle floating islands that helped drive the Nazi submarine wolf packs from the Atlantic this past summer, are products of Yankee ingenuity and resourcefulness. They are, in part, also products of the forest. The entire intricate mechanism of this speedy new craft, smaller than the regular carriers, is designed for one purpose—to provide highly maneuverable landing strips for aircraft wherever they are needed on the seven seas to run down and destroy enemy U-boats. These landing strips, the flight decks of the carriers, are made of Douglas fir from the forests of the Pacific Northwest.

Last year word went out at the famous Kaiser shipyards on the West Coast, where construction records have been rung up with consistent frequency, that a new kind of ship was to be built. Nothing must be said about it; it was to be an absolute secret. Then for months more than 30,000 men and women in the Kaiser yards worked on five ways to build these mystery ships. Not one word leaked out—another record the Kaiser workers are proud of.

In time the first of these new ships was launched—the *Casablanca*, a midget aircraft carrier, just long enough for a fighter or a light bomber to take off and land, with a margin of safety. Small, she was also speedy, capable of keeping up with other fleet units, or with the fastest of convoys. After the *Casablanca*, other midget carriers were launched, and

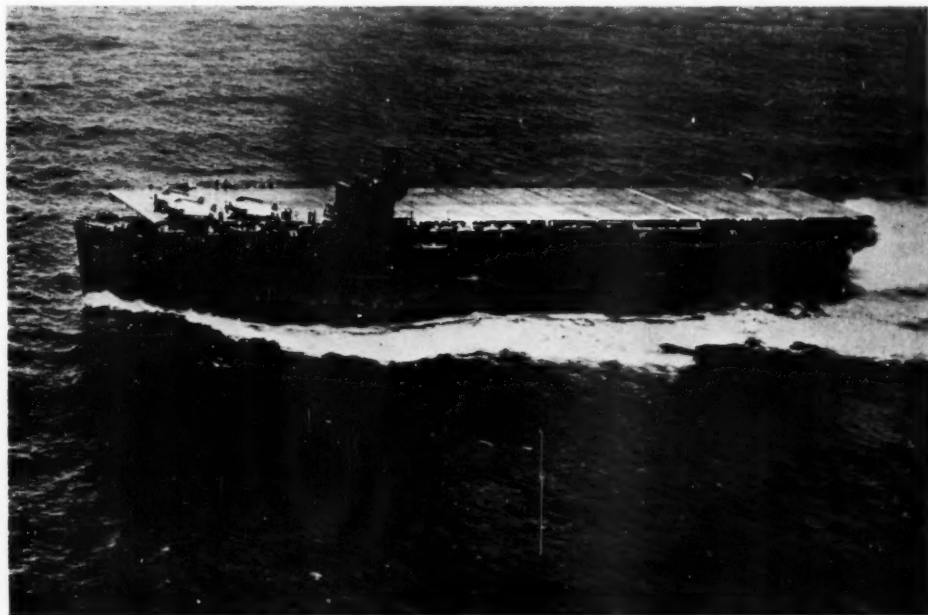


Douglas fir — only clear, straight-grained timber qualifies for this important use

Unplaned timbers are fastened to the framework of the flight decks—a complicated job

WOOD FIGHTS THE WOLF PACKS

New Sub-Hunting Aircraft Carriers Have Decks of Fir



Speedy and small, the midget carrier is the latest weapon in the war against Nazi undersea craft

a new fleet of escort aircraft carriers was in the making. The first of these ships went to our Navy, others to the British.

With their advent, the fortunes of ocean warfare shifted. Fewer merchant vessels were sunk and more enemy submarines were sent to the bottom of the sea. For a while, their losses averaged one a day. Speedy patrol planes, based on these escort carriers, spotted and destroyed the undersea craft before they could reach the slower work horses of the merchant fleet. Dwindling ship losses indicated that Hitler's wolf packs were being driven from the Atlantic.

Not only on convoy duty have these miniatures proved themselves deadly, but also in out and out combat operations. They were on hand at Attu, with vital air support, when the Americans ousted the Japs from that Aleutian outpost.

In the beginning, decking for these craft presented a difficult problem. Teakwood over the years had been considered the best material for carrier flight decks, but in 1942, with the Japanese in possession of the Burma forests, teak was completely out of the picture. New material had to be found, so Navy engineers began a series of exhaustive tests. Eventually they selected Douglas fir, a happy choice as it has turned out, for

while this wood from the forests of Washington and Oregon is not as hard as teak, it has many qualities which make it as desirable.

Decking for aircraft carriers is cut vertical grained to present a maximum wearing surface that will not splinter. It must be straight-grained, with a maximum allowable slope of one inch in ten, compared to one inch in fifteen allowable in aircraft lumber, generally recognized as the best lumber from a log. The top surface of the deck must be absolutely free from knots and only one inch knots, or smaller, are permissible on the under face.

Douglas fir, being straight-grained and free from excessive sapwood and knots, stood up well under initial tests. Another thing, it was available in long lengths, an important consideration. Experience under fire, in actual battle tests, not only has justified its selection, but has developed opinion in many quarters that it is actually superior to teak in several important details. For one thing, teak caused trouble because of its high oil content, which never completely left the wood, even after long use. Oil, mixed with salt spray, often made footing on deck uncertain, besides sacrificing some of the qualities of traction so desirable when planes land and take off. Because of its lack of oil, Douglas fir

provides a deck of greater traction, and heavy, bomb-laden planes must get the greatest possible wheel grip on the shortest possible run. Incidentally, aircraft decking is not planed, but used rough as it comes from the saws.

The job of manufacturing decking for the shipbuilders has not been easy. The standards are high and the problems many and varied. In the beginning, as soon as difficult cutting items were agreed upon by Navy engineers, top flight lumber experts from the West Coast Bureau of Lumber Grades and Inspection set about training a small army of lumber graders and inspectors in the intricacies of aircraft decking manufacture.

While this was going on, a similar instruction program was operating in the sawmills. Sawyers were made fully aware of what was needed, for getting the maximum amount of decking from each log requires extra attention and slower work at the headrig. This preparation has paid off in real dividends, for the flow of ship decking has been continuous and in sufficient quantity to meet schedules.

From present indications, the forests and mills of the Northwest will continue to meet demand—will continue to fight Hitler's work packs, or Tojo's wolf packs, with flight decks of Douglas fir.



THE GIFT OF WOOD

FROM time unrecorded, the forest has yielded its gifts to man.

Down through the centuries, from the time when the all-wise Solomon turned to the woods and ordered hewn to build his Temple "cedar trees, fir trees and alnum trees, out of Lebanon." Down to the beautiful Scriptural record of that first Christmas, when the shepherds, guarding their flocks at night on the hills afar, were "sore afraid" as the Angel of God told them, with great rejoicing, of the birth of the Christ—and where they would find Him, in the little town of Bethlehem, "wrapped in swaddling clothes and lying in a manger." Ever since then, when our greatest gift—the Holy Child—lay in a simple manger of wood, the forest has yielded its gifts to man. Even the treasures brought as tribute to the new-born King by the Magi, the Three Wise Men of the East, who followed the Star and knelt in awe and adoration before that lowly manger, were of gold, "frankincense and myrrh."

And now, nineteen hundred years later, the rich, renewing bounty of the forest is still ours to draw upon. From it come gifts to gladden children's hearts—gifts to make easier the world of work,—gifts fashioned for their beauty alone. At this blessed season, turn then briefly from the horror of a world at war and let the miracle of Christmas serve once more to lift the heavy hearts of men.



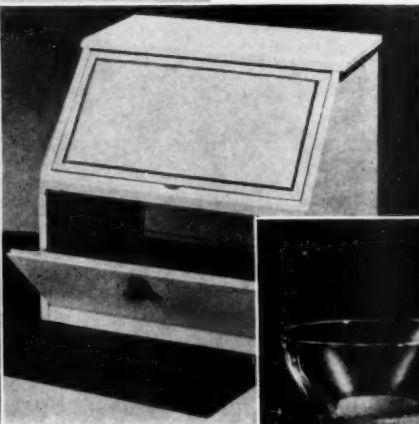
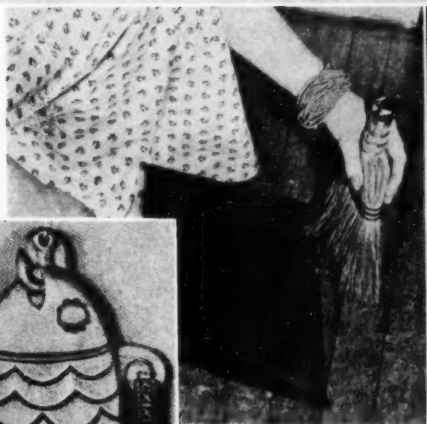
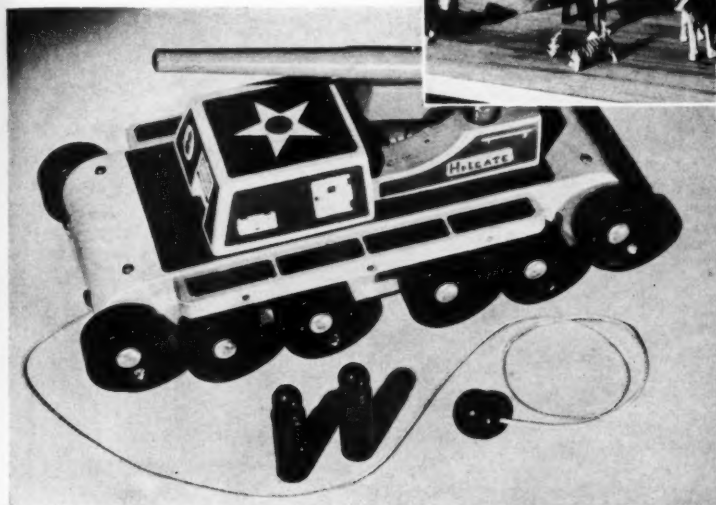
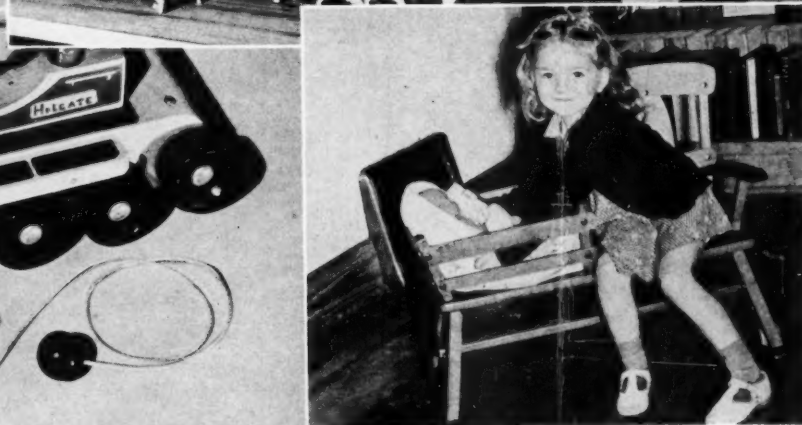
Steel has gone to war, and so the modern chair has springs of wood—gift of the forest



A gift blanket made of wood pulp does not sound inviting, but this one even looks good. And its unique insulating qualities give more warmth than a wool blanket of equal weight

The latest way to ensure a good night's sleep when traveling—take along your bed-board of plywood. It's easy, it folds and will stiffen up the usual "squishy" mattress

With new-fashioned toys, old-fashioned Christmas still belong to children, as this little girl with her combination rocker and doll cradle joyously proves. Wood carved animals parade to jingle bells, and the gun below—for martial-minded junior—is made entirely of wood



Into the kitchen march gifts of wood. To replace the metal dust-pan, wooden ones appear in rainbow colors. The long familiar metal enamelled bread-boxes are offered now in wood—some plain, some gaily decorated in bright colors



Easily hand-carved of wood, a decorative fish will hold your two favorite kitchen knives



Metal has been replaced with wood in the collar and fittings for this modern glass coffeemaker



THE ALEUTIANS . . . ROCKY BRIDGE TO TOKYO . . .



Historic Attu, western anchor of the "Rocky Bridge," as it appeared in 1942 before the Japs came. Two centuries earlier it was invaded and conquered by Russian fur traders

By
BEN EAST

"THE Lord built the bridge for us. All we have to do is use it," the general said.

That was in August, 1941, less than four months before Pearl Harbor. We were beating our way eastward along the Alaskan coast between Dutch Harbor and Seward, aboard the lumbering old *Cordova*. There was much war talk on shipboard. We were making ready in Alaska in feverish haste by that time, pushing work on landing fields and sub bases and army camps, hacking gun emplacements out of the sides of green, snow-streaked mountains, building roads up rocky hills and across soggy muskeg, forging link by link an iron chain to close the North Pacific to enemy attack.

The bridge to which the general referred was the long chain of the Aleutian Islands that reaches 1,100 miles west from the Alaska peninsula, cutting Bering Sea off from the North Pacific like a broad-bladed sword that rests its tip

literally on the back doorsill of Japan. What the general meant was that when the war began we had in that long land bridge a ready-made approach to our Pacific enemy, for land forces, sea forces, air forces.

He was right. That is the bridge our troops are using in the North as they march step by step nearer to the industrial heart of the Japanese empire. Of all the roads that lead to Tokyo, for United States forces that chain of strange islands is the shortest and most direct.

The geography of the North Pacific is a little vague in the mind of the average American, accustomed all his life to flat maps. Unless you've looked at the globe recently you'll hardly believe it is 1,800 miles shorter from Seattle to Yokohama by way of Dutch Harbor than by Honolulu. Even from San Francisco to Yokohama the distance is a thousand miles less if you swing north and skirt

the southern edge of the Aleutians. The Great Circle route between Seattle and Tokyo cuts them twice, passing north into Bering Sea and south into the Pacific again. But from Washington to Tokyo the Great Circle doesn't touch the Aleutians. It passes north of them in Bering Sea and comes down across Japan from the northeast, around their western end.

The length of Alaska, from Attu to Ketchikan, is the breadth of the United States from Los Angeles to Savannah. From Attu to the Alaskan mainland is about as far as from Chicago to Tampa. And the American forces now dug in on Attu are almost exactly the same distance from the nearest major Jap base, in the

rocky Kuriles at the north end of Nippon's sprawling island chain, as Ketchikan is from Seattle. Or to put it more graphically, when our troops finished their chore on Attu last May, they stood as near to Japan's northeasternmost outposts as Tokyo's flyers would stand to our northwesternmost cities if they held an airfield on the southern British Columbia-Alaskan border. They're farther west than the Fijis, those Attu troops. When the summer sun sets over their camps it is rising off the New England coast.

Are you beginning to see what the general had in mind about the bridge the Lord built for us?

The developments in the North Pacific in the early summer of 1942 followed a pattern many military men had expected. We know now the Jap hurled a two-pronged offensive, forming a giant pincers with one arm in the north and another in the south, aimed at ultimate invasion of this continent. Against the Hawaiians by way of Midway he sent his main fleet of warships and transports. Against Alaska by way of the Aleutians he threw his secondary armada of carriers and more transports.

reeling back, beaten and demoralized. Over Dutch Harbor army planes from a secret air base flashed suddenly out of the clouds and Japan's Alaskan invasion force wheeled back to the westward, settling for a toehold on Kiska and Attu.

This is not the first time that curving island chain has served as a land bridge for an invading force. It played the same role for the Russians two hundred years ago, when they found and conquered and occupied the fur-freighted wilderness of Alaska.

The Russians discovered North America from their side of the Pacific in 1741. The first settlements along the Atlantic were old colonies and the West Coast had been explored as far north as California, but the shape of the continent beyond was still a matter of conjecture. Land was there, shadowy and vague. More than that nobody knew.

But now, belatedly, the time had come to unlock the secrets of the North Pacific. A two-ship expedition of the Russian navy lay in Avatcha harbor on the Kamchatka Peninsula, commissioned by the Empress of the Russias to find the unknown land to the east. Already eight land-bound years had been spent on this



Though treeless, the Aleutians are not lifeless—a native bald eagle

of the czars. His second in command was a Russian, Captain Alexei Chirikof. On June 15 the two ships were separated. Bering and Chirikof never saw each other again. A month later, sometime in the night of July 15, 1741, Chirikof sighted, from the deck of the *St. Paul*, the high wooded mountains of a strange coast in the vicinity of Cape Prince of Wales Island, near the present southern boundary of Alaska.

At noon the following day, three hundred miles to the north, Bering saw the shining white cone of Mt. St. Elias rising 13,000 feet above the gray plain of the Pacific. Alaska had been found and Russia had clear title to a piece of North American real estate. But the great discovery brought little joy to either of the explorers. The cold breath of disaster was already blowing on the necks of Chirikof and Bering.

Early in the morning Chirikof sent his mate ashore with ten armed soldiers to explore the coast. They never came back. At the end of six days a second group was sent to the beach to search for the first. It, too, failed to return. The Russian captain, short-handed and in grave danger now, turned reluctantly back toward Kamchatka. On October 10, the *St. Paul* regained the harbor she had left in June. Of her crew of seventy-five, twenty-one were dead or missing.

Bering fared worse. His attitude on the morning of the discovery was strange. He was too seasoned an explorer to have been moved by the emptiness of the sea around him or the vastness of the mountain range along the shore. Perhaps a vague foreboding of his fate touched him for a minute. At any rate, when his officers clustered on the deck around him he would have none of their congratulations. He shrugged his shoulders and chilled their elation with grave words. "Who knows where we are?" he demanded, "or when we shall see Russia again or what we shall eat in the meantime?"

In low spirits, he turned toward home on July 21. Almost at once the *St. Peter*



These rocky hillsides of Dutch Harbor, on the eastern end of the island chain, were scarred by the first Jap bombs dropped on the Aleutians during the attack of June 3, 1942

The attacks were timed to coincide. The first Jap bombs scarred the rocky hillsides at Dutch Harbor and the neighboring village of Unalaska on the morning of June 3. Three hours later American planes spotted the fleet of the Rising Sun steaming on Midway.

What happened is history now. American airmen sent the fleet in the south

venture. It had taken the expedition that long to cross Siberia from St. Petersburg. The caravan journey was ended at last. The sea, uncharted and unknown, was waiting.

The *St. Peter* and *St. Paul* sailed eastward on the morning of June 4 in command of Vitus Bering, a Dane who had seen thirty years of service in the navy



This sagging Russian cross in an old cemetery at Unalaska frames a village that in 1760 was the fur trading capital of the Aleutians

blundered into the mountainous islands along the Alaskan coast and that long chain confused and hindered her to the end of the voyage. Bering was first to learn there are no fouler grounds for a ship than the waters of the Aleutians. In August the ship anchored in a group of islands west of Kodiak for fresh wa-

ter. A third of the company was ill of scurvy and here the first sailor died. Bering buried him, gave his name of Shumigan to the cluster of islands, and sailed on.

Now the commander himself fell sick with scurvy. Through September and October, while the dreary Aleutian au-



Salmon are plentiful in Aleutian waters. This catch was made off Unimak, first of the barren, stormy, fog-bound chain of islands

tumn came on, the ship threaded a painful course west, coming upon one island after another. The end came early in November. On a calm moonlit night, rare in those stormy seas, the *St. Peter*, badly sailed by a sorry crew, was cast ashore and wrecked on a desolate beach two hundred miles short of the Kamchatka coast. The survivors carried their leader ashore on the bleak island that now bears his name, in the Commanders of Russia. There, on December 8, Bering died in a rude cave dug by his sailors.

The winter was an endless time of cold and hunger for the men that remained. Along the beaches they found four sea mammals of a kind unknown to Europeans, fur seals, giant seacows, big yellow-brown sea lions and sea otters. On these they relied at first for food. When the weather grew colder and sea cows and seals and sea lions left the snowy beaches, dead whales that drifted ashore supplied meat, and oil for the lamps in the bitter nights. The sailors combed the island for driftwood to burn.

Spring came at last. In May those who survived began the task of building a smaller vessel from the wreck of the *St. Peter*. In this ship, forty-one feet long, they left Bering Island in August of 1742. Ten days later they were back in Avatcha harbor. Of the seventy-eight men who had gone to sea with Bering, forty-four returned.

These survivors brought back to Kamchatka the greatest find in the history of the fur trade. The hold of their patchwork ship carried the pelts of 700 sea otters. Furs were the currency of that day in many parts of Russia—but furs like these had never been seen before. All unknowing, Bering's starving crew had unlocked a treasure house of silken pelts. For sable skins all of Siberia had been brought under the czar's yoke in a century and a half, and these were far finer than any sable.

The fur hunters of Siberia, the *promyshleniki*, were as tough a breed as the voyageurs of Canada or the mountain men of our own West. Maybe tougher. They came swarming now to the islands Bering had found, to write on the pages of history the cruel and bloody story of the sea otter trade. First to take the new sea trail east from Kamchatka was Emilian Bassof, a sergeant in the Russian army. In 1743, less than a year after the *St. Peter's* survivors had returned to Avatcha, he built a small *shitika*, lashing its planks together with sealskin thongs, and sailed for the island where Bering had died. He returned to the Siberian mainland with 1,600 otter skins—and 2,000 each of the blue fox and fur seal.

Others were quick to follow. In the

autumn of 1745 a *shitika* sailed from Kamchatka for the Aleutians. Late in September the fur hunters landed on Agattu. On the beach they quarreled with a band of Aleuts armed with bone-tipped spears. The Russian muskets coughed and the first blood was shed on the long sea otter trail. Within a month that same party shot down fifteen natives on Attu, and the Aleut conquest was under way. It was the misfortune of the Aleuts to live in the sea otter country. For the next hundred years the Russians showed scant mercy to either.

Island by island the fur hunters advanced through the Aleutians until they reached the mainland and established there the trading posts that became the coastal towns of Alaska. In less than a hundred years they took more than 250,000 sea otter pelts and left hardly more than 2,000 Aleuts of the 25,000 who had faced them in the beginning. By the end of the eighteenth century the best of the otter harvest was finished and the natives reduced to a broken nation of half-breed slaves. The Aleutian land bridge had served the *promyshleniki* well. Alaskan history was cradled in those wet islands and it was no gentle beginning.

Coming into the island chain from the east aboard a troop transport, you leave the Alaska peninsula behind at False Pass, easternmost of the channels linking Bering Sea with the Pacific. Beyond lies Unimak, first of the treeless Aleutians. Rising above its rocky beaches and windswept meadows, Shishaldin volcano — the mountain Alaskans know more intimately as Smoking Moses — lifts its white cone 9,400 feet into the sky, a titanic chimney that spills an endless ribbon of sulphur-tainted smoke.

Shishaldin introduces you properly to the string of living volcanoes that sweeps away for more than a thousand miles to the west, Pogromi, Akutan, Makushin, Vsevidof, Korovin, Gareloi and all the others. They set the pattern for the whole Aleutian landscape. It all looks new and raw and incomplete, with its sheer cliffs, snow peaks, smoldering mountains, steam vents and treeless moors.

More than a hundred sea miles west of False Pass you come to Unalaska Island, where the Russians founded the fur-trading capital of the Aleutians about 1760 and where the first Jap bombs dropped on Alaskan soil in June of 1942.

Much more has been heard of Dutch Harbor than Unalaska since the war began, but Unalaska was a thriving port at the crossroads of Bering Sea and the North Pacific at the time of the Nome gold rush, when Dutch Harbor was a hamlet of fewer than a dozen houses.

Unmak is the next big island in the chain west of Dutch Harbor. It was the scene of a major sheep ranching proj-



Mt. Cleveland in the Four Mountains—one of the string of living volcanoes setting the majestic pattern of the Aleutian landscape

ect before the war. There were no coyotes on Unmak but sheep herding was still far from a bed of roses. Ravens, the black-plumaged, black-hearted corvine thieves of the Aleutians, had learned to attack the sheep, pecking out their eyes

and feeding on the carcasses when the pain-crazed woolies tumbled into ravines and died.

West of Unmak there were only two Aleut villages, Atka and Attu, when the
(Turn to page 606)



The cruel history of the sea otter trail is written in this ancient Aleut burial cave. Of 25,000 natives, but 2,000 survived the fur traders

GROWING CORK OAK IN THE SOUTH

By GILES B. COOKE

CORK oak trees in large quantities are being planted in the southern states. Last fall and winter more than 3,000 pounds of acorns were distributed throughout the region from Maryland to Texas. Some were planted directly in selected places during the winter and early spring, but the greater portion was planted in nurseries. Seedlings from

these will be transferred to permanent locations this fall and winter. Additional cork acorns will be available in 1944 and succeeding years. In time, not less than a quarter of a million cork trees will be planted throughout the South.

Why this extensive program? Cork, the bark of the cork oak, is a critical raw material, essential in the prosecu-

tion of the war and an indispensable peacetime commodity. For more than 2,300 years the world's supply of this valuable product has come from the limited area bordering the western Mediterranean. In normal times the United States imports about 160,000 tons of cork a year. Since 1939, however, only a limited amount has been imported, and this because of the neutrality of Spain and Portugal. Control of the Mediterranean by the United Nations has, of course, eased the four years of tension, but the use of cork today is still regulated by the War Production Board.

The present program of planting cork oaks for the commercial production of cork was initiated and is sponsored by Charles E. McManus, president of Crown Cork and Seal Company. The project was started in California in 1939 and extended into Arizona the following year. The enthusiasm and interest exhibited in these states was tremendous and much was accomplished in a short time. Because of this early success, Mr. McManus decided in 1941 to extend the project into the southern states.

The mild climate of the South is favorable to growing cork. Also, there are hundreds of thousands of non-productive acres, much of which is well suited for cork production. In a survey of the southern states, large healthy cork trees were found growing in Virginia, North Carolina, South Carolina, Georgia and Alabama. Smaller cork trees were located in Louisiana and Florida. In Texas and Mississippi, agricultural records show that cork plantings have been made. In addition, Maryland, Arkansas, Tennessee and Kentucky are making extensive plantings of cork trees.

Under the project, the Crown Cork & Seal Company assumes the costs of collecting cork acorns, growing seedlings and distributing the seedlings or acorns. After planting the trees become the property of the planter. Efforts are made to locate all existing cork oaks and the soil and climatic conditions under which they are growing are thoroughly studied.

In order to establish the quality of cork produced, bark samples are removed from trees in selected areas for exhaustive laboratory testing. Samples of soil from under the old trees have been collected and examined. These vary considerably and include clay loam, sandy loam and rich garden loam—



Fine old trees such as this veteran in South Carolina demonstrate conclusively that cork oaks will thrive in the South



The current cork program contemplates the planting of a quarter million trees—mostly from nursery grown oak seedlings

1786

Paris May 6. 1786.

Your favor of Nov. 23. I expect in
the same season from the South of France, some acorns of
the Cork oak which I propose for your society, as I am per-
suaded they will succeed with you.

Wm Drayton esq.

Th: Jefferson

showing that cork oaks grow well on a wide variety of soils.

The United States Forest Service, extension foresters, state forestry departments, forestry and agriculture departments of southern universities and local agricultural agents are cooperating in the program. The interest shown and the numerous helpful suggestions given by these men trained and experienced in tree culture have contributed greatly to the project. With such united effort much has been accomplished.

The growing of cork trees for commercial purposes is not new in America. Their planting was advocated more than a hundred and fifty years ago by Thomas Jefferson. In France to negotiate trade treaties with European countries, Jefferson in 1786 wrote as follows to William Drayton of Charleston, South Carolina, who was at that time chairman of the Agricultural Society of South Carolina:

"Perhaps I may render some service, by forwarding to the society such new objects of culture, as may be likely to succeed in the soil and climate of South Carolina. In an infant country, as ours is, these experiments are important. We are probably far from possessing, as yet, all the articles of culture for which nature has fitted our country. To find out these, will require abundance of unsuccessful experiments. But if, in a multitude of these, we make one useful acquisition, it repays our trouble . . . I expect, in the same season, from the south of France, some acorns of the Cork oak, which I propose for your society, as I am persuaded they will succeed with you. I observed it to grow in England, without shelter; not well, indeed, but so as to give hopes that it would do well with you."

The cork acorns were sent over the following February and their receipt



Thomas Jefferson was an early advocate of cork oak planting in America, as shown by the above letter written from Paris in 1786. These fine old trees, planted probably a century later, are growing today in Georgia, above, and in Alabama, below



was acknowledged by William Drayton in a letter to Thomas Jefferson dated May 22, 1787. No cork trees were obtained from these acorns. The package was three months in transit and, without doubt, the acorns were non-viable when they reached South Carolina. Jefferson,

The United States government became interested in growing cork in the 1850's. Franklin B. Hough of the Forestry Division, Department of Agriculture, in 1877 wrote about the *Cultivation of Cork Trees in the United States* as follows:

"In 1858, and, it is believed, at an

lina, shows that all the acorns planted in 1859 came up and made healthy plants. Three of these are now about twenty-four feet high, and over 27 inches in circumference. Two trees, at least, are flourishing at Orangeburg, South Carolina, and there are probably elsewhere in the South examples of successful planting of this tree. The cork oak requires a warm climate; but the Southern States and California appear perfectly well adapted to its wants."

Additional cork acorns were distributed in 1880 throughout the southern states. Many young trees from this planting, as well as from the earlier effort, died from lack of proper care, storms and other causes. However, a limited number survived and grew to large trees having thick cork of excellent quality.

About thirty years ago the United States Forest Service made experimental cork oak plantings in South Carolina and Florida. Acorns were obtained from Portugal and a fair percentage sprouted. At Sommerville, South Carolina, the cork seedlings were interspaced with pines, only to be destroyed several years later by a fire. In Florida, when the saplings were about eight feet high, a severe hurricane destroyed most of them. Those left were badly twisted and deformed. In 1942, only three cork oaks remained from this planting.

The fact that cork oaks, in widely scattered places, have thrived for from sixty to eighty-five years and have grown into beautiful trees shows conclusively that the South can produce this valuable tree. The quality of the cork removed from trees in Virginia, South Carolina, Georgia and Alabama has been found equal to that of imported cork. These facts give assurance to those interested in planting cork trees at this time. Furthermore, the cork oak is an evergreen and the presence of a few attractive specimens has been responsible for the growing, during the past forty years, of a limited number as ornamentals.

The widely scattered cork trees in the South are growing in locations having widely different soil, temperature, rainfall and drainage conditions. There are four large cork oaks in Virginia, two at Norfolk and two on the Eastern Shore. A tree formerly grew at Richmond. It is interesting to know that the cork oak is sufficiently hardy to thrive under the climatic conditions prevailing in this part of Virginia. Five large cork trees, and the stump of an old one that formerly lived, have been found in North Carolina. In South Carolina sixteen trees have been located. Evidently, cork oaks were planted at a very early date in this state. The remains of large trees have been found in which all of the

(Turn to page 604)



Removing the bark, from which cork is obtained, from a young cork oak in Georgia. Trees are thus stripped at ten year intervals

however, continued his efforts toward introducing the cork oak for forty years. In April, 1826, a few weeks prior to his death, he recommended the planting of cork trees in a letter to Dr. Emmett, professor of Natural History at the University of Virginia.

earlier period, quantities of acorns from the cork oak were procured from the south of Spain, and distributed from the Patent Office to those sections of the country where it was thought they would thrive. A report made at the close of 1875, from Winnsborough, South Caro-

Editorial

WHAT ABOUT FOREST ENGINEERS?

IT HAS been emphasized that this is a war of specialists—the right man trained to do the right thing at the right time. If this be true, some interesting questions arise from the reading of a statement concerning forest engineers recently issued by the War Department.

This paper, first stressing that “lumber is a strategic war commodity, becoming a critical material within theaters of operation,” reveals the organization of the 786th Engineer Forest Battalion of three operating companies. This followed organization in the spring of the 797th and 798th Engineer Forest companies. No mention is made of additional companies being activated—or even contemplated. Thus, it can be assumed there are now in the field or in course of activation five operating companies of forest engineers—a total force of possibly 1,500 or 2,000 men specially

trained and organized for forest work in all our military areas.

Considering the global nature of this war and the acknowledged growing demand for lumber “within theaters of operation,” this is spreading the military lumber production line pretty thin. It measures out, in fact, one company of forest engineers for each theater. According to the War Department, the production capacity of a company is 25,000 board feet every twenty-four hours. Compare this with 1,000,000 feet a day produced in France by the 10th and 20th Forest Engineers of World War I!

Thus arises the question:—Just how critical is the need for lumber in the various theaters of operations? If 25,000 feet a day is the measure, we would say there is nothing to get excited about. But if not—and we have reason to be-

lieve it is many times this amount—then what? Shipping space and distances being what they are, can we supply from this country the lumber needed, say by MacArthur in the Solomons?—or by Eisenhower in the Mediterranean?

Following the line of military thought on specialization, the Army would be expected to build hospitals, barracks and other structures essential to a large fighting force from lumber manufactured on the ground by lumber production specialists—or forest engineers. Yet, to date, only a handful of forest engineer companies, if we read the War Department’s statement correctly, have been organized. Is it any wonder we are perplexed and concerned as to what has happened to the forest engineers in this war? Perhaps the War Department can explain.

CONGRESSIONAL FIRE SEASON

IF MEMBERS of the House Committee on Agriculture and Forestry, reading the early November headlines of forest fires swirling around the great war industries centers in southern California, had experienced the same concern as the grim-faced foresters battling those blazes, they would have dusted off S. 45 and rushed it through for the President’s signature.

This bill, to amend the Clarke-McNary law by raising the sum which Congress is authorized to appropriate for cooperative forest fire control with the states from \$2,500,000 to \$9,000,000, was passed by the Senate on July 3. Why it has been allowed to rest in the files of the House committee is anybody’s guess—but perhaps the one nearest the truth is that forest fire protection is not yet on the committee’s agenda as a critical war activity. How else explain it?

Perhaps something of the consternation that must have seized war industrialists and others in the Los Angeles area when a dozen or more fires raged out of control down the mountainsides will rebound to Washington and help change the committee’s attitude. It was only a matter of good fortune—considering the war effort—that the 150 buildings con-

sumed by the fires were not war production plants. The thousands of man-hours tied up in fighting the blazes and the 50,000 or more acres of valuable watershed forests burned out, are losses the House Committee may well ponder.

Legislators know that it takes money to fight forest fires, but the amounts necessary to do a first-class job still stagger them, even though the sum required is but a minute fraction of the billion-dollar unit commonly used to measure wartime expenditures. As a result, foresters must fight fire on two fronts—in the halls of Congress and in the forest. This is not new, not a product of the war. Even in normal times the fire battles fought in Congress have been severe ordeals.

What the war has done is to further complicate the already complicated legislative setup under which fire appropriations are made. To begin with, there exists a feeling that danger to our forests from enemy sabotage has vanished. The absence of disastrous fires during the past two seasons has likewise had the effect of a lullaby on many of our lawmakers, who failed to interpret this good fortune in its true light—unusually

favorable weather conditions in critical fire areas, plus extreme vigilance on the part of depleted federal, state and private forest production agencies.

Congress makes appropriations for forest fire protection under several headings, the most important of which is for cooperative protection with the states under the Clarke-McNary law. The maximum which the government can legally appropriate under this law is \$2,500,000—a sum which Congress has acknowledged to be insufficient by providing additional funds through legislative subterfuge and with disregard of statutory limitations. Such methods of dealing with fire appropriations create delays and uncertainties. Speedy enactment of S. 45 would remedy this, and at the same time increase authorization to \$9,000,000—a figure more in line with the fire protection job to be done.

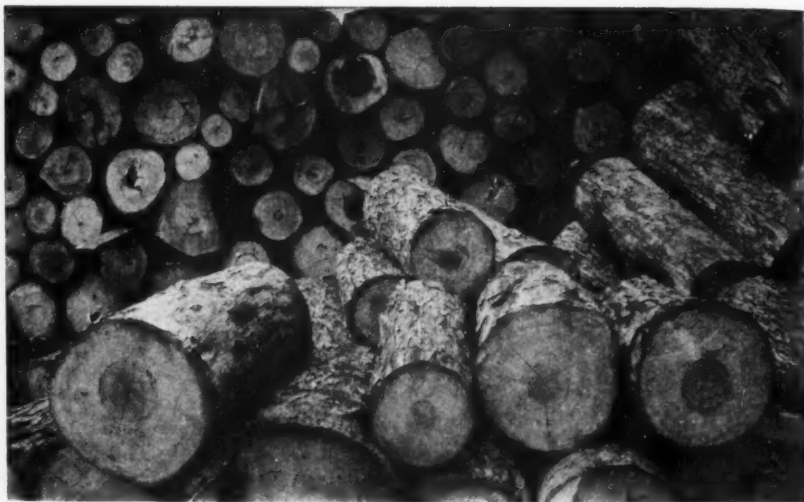
Perhaps the California blow-up will awaken members of the House Committee on Agriculture and Forestry to the realistic fact that danger to the nation from forest fires is as critical as ever. At a time like this, bickering and delays over giving battle to such a destructive agent as fire seem rather frightful.

FORESTRY IN OZARK COOPERATIVES

By LEWIS BALDWIN

THE outside world thinks of the Ozarks as a range of low mountains in western Arkansas. The people of eastern Arkansas and southeastern Missouri think of their homelands as part of the Ozarks even though they lie outside what may be more properly considered by this term. This latter region is a sort of plateau above the rich delta lands of the Mississippi River. It has the same general history as many other formerly forested regions of the United States where the soil later turned out not to be uniformly well suited to agriculture. Its forests were mostly hardwoods with some mixture of southern pines. A little before the turn of the century the lumber companies moved in and skinned off the best of the timber—the old “cut out and get out” method.

By the end of World War I most of the companies had done both. The cut-over lands were cheap. Settlers moved in, not the most prosperous individuals in many cases; some were typical southern woods burners, others failures from the cities. Here a family can somehow get by with a rough cabin, surrounded by a small corn patch, a few razorbacks and maybe a slab-sided cow or two—all



Farm forestry products—hickory tool handle stock

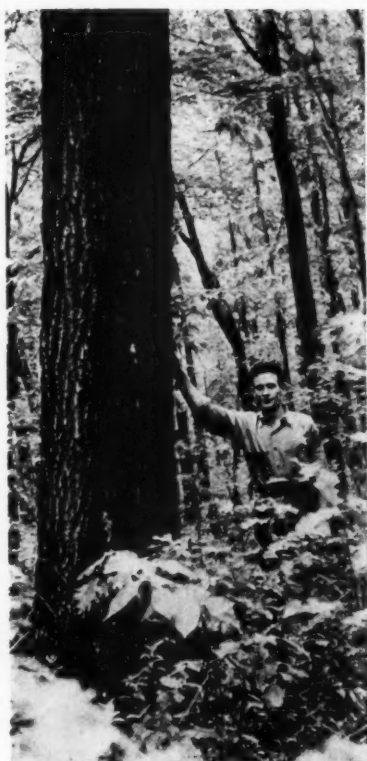
grazed on the open range—for there are few stock laws requiring an owner to fence in his cattle and hogs.

The land may not be altogether mountainous but it is rough and erodes easily. The sidehill corn fields are ideal places

for erosion. Many farms are literally sliding down hill—finally to come to rest at the bottom of the Gulf of Mexico. Forest fires, overgrazing, and promiscuous forest cutting of the remaining forests expedite the process. The best land



Cutting barrel staves. Small cooperative sawmills may be a solution to continuously profitable woodlot management



There is a little good stuff left

—none too abundant at that—lies on the plateaus between the streams draining into the Mississippi and its major tributaries. Here, in Dent County, Missouri—typical of the region—the Federal Farm Security Administration in 1941 found the average income of farm families to be \$425 each. On the poorer slope and narrow valley bottomlands it fell to \$250. Even taking hog and hominy into the picture, this is not much for the large families typical of the region.

The towns, many of them partial if not full-sized ghost towns left over from the big timber days, have little to recommend them. Lumbering is not quite dead but mills which once cut 100,000 feet a day now cut from 5,000 to 40,000 of poor quality timber. There is some timber of this kind left on the farms but the woods burners do not improve its quality nor increase its amount. Notwithstanding this, the importance of forests in the region is indicated by the fact that in Missouri alone in a recent year, farm forest production was estimated at \$13,000,000.

Altogether both the country and its people need a large dose of rehabilitation. Crops must be confined to lands suitable to them. Trees must take the place of corn on the steep slopes and people must be taught both how to grow them and how to make a living by doing so if the country is to remain habitable.

The federal government and the states are contributing to the situation. The former has purchased large areas of the poorest land for national forests, figuring that the timber to be grown on them will both check erosion and help reestablish forest industries. The Farm Security Administration is working in various ways to improve farming and land use methods. The Soil Conservation Service is introducing methods of tillage which will control erosion and is stressing the importance of farm woodlots on the poorer soils. The state conservation departments are trying to prevent forest fires and the state agricultural colleges are helping in all agricultural problems.

But, after all, the best sort of help is self-help, not alone by individuals but by local groups working out specific so-

lutions of their own problems. In a region where forest land holdings are too small to yield each separate owner a living, some sort of cooperative action is an important solution to better forest practices. Nevertheless, the large farm cooperatives organized so prolifically after the last war have not stepped into the forestry field in any large way. It is therefore interesting and hopeful to know that the people of this forgotten region are helping themselves through community action by organizing, with or without outside help, small local cooperatives. Many of them concern the forest, although few are exclusively forest cooperatives.

Apparently among the first to revolve about forest use was organized in Frank-
(Turn to page 605)



Good forestry—a post and fuelwood thinning operation



Poor forestry—high stumps left, and thrifty young trees cut

LAUREL FARMING FOR CHRISTMAS



For a Third of a Century, Wreaths and Roping of Mountain Laurel Have Provided "Christmas Spending Money" for This Maryland Farm Family



By HARRY W. DENGLER

BACK in 1905, Louis Faulder, a truck farmer and woods worker, came upon decorative Christmas wreaths for sale in a store at Hagerstown, Maryland. One wreath was made of paper, the other of white pine boughs. This gave Faulder, who sold persimmons and chestnuts on the local market to supplement his regular farm income, an idea. If residents of Hagerstown were buying wreaths to decorate their homes, why couldn't he earn a little "Christmas money" by supplying them. His own woodland would provide the material, and he and his family could make the wreaths during a season when things were generally quiet on the farm.

Being a man of action, Faulder made up a few samples from white pine and mountain laurel. They sold immediately. He went back into his woods for more pine and laurel, and soon thereafter dis-

covered there was a ready market for all the decorations he could produce. Since that time the Faulder family has made thousands of Christmas wreaths, as many as 500 in a single season.

Thus this enterprising Maryland farm family, at a time of the year when normally there is little cash income, has developed a pleasant and profitable business from its farm woodland—a business that has been consistently maintained over a period of thirty-eight years. The Faulders early discovered what other enterprising farmers have since learned, that a farm woodland, when properly utilized, is a valuable asset in more ways than one.

In the beginning, wreaths were made chiefly of white pine. When this became scarce, the Faulders switched to laurel and southern red cedar. Now they use laurel almost exclusively. This they



Laurel for wreaths and roping is gathered in the Faulder woodland



All hands are busy in this Maryland farm home before Christmas. Here laurel roping is being made in twenty-five-foot lengths

gather in their own woodland on nearby South Mountain, and in woods owned by their neighbors. They do not pay for this privilege, for in many sections of the mountain laurel is so dense that it seriously interferes with the development of, desirable tree reproduction.

The laurel is gathered and stored in burlap sacks on the ground outside the Faulder's kitchen door. When time permits, from Thanksgiving to Christmas, members of the family make up the wreaths by overlapping clumps of laurel tied onto hand-made split hickory or grapevine hoops. Only the new growth is used. These wreaths are about a foot in diameter and retail for around twenty-five cents each. Clumps of bitter-

sweet are often added, enhancing the appearance of the wreaths and their value on the city market.

When cities and towns inaugurated the practice of decorating their business sections with many types of ornaments during the Christmas season, Hagerstown was among them. Not only did the city fathers appropriate money for this purpose, but groups of merchants pooled funds to dress up their own particular street or section to entice potential customers into their stores. Wreaths were used for this purpose, but there was also a demand for roping to be draped across streets and illuminated by colored lights.



The supply is plentiful on South Mountain. Only new growth is used

Faulder contracted to supply the city with both wreaths and roping, and the demand in recent years has been so great that a good part of his seasonal output has gone for this purpose. For the city, wreaths about three feet in diameter were made. Some this size were also sold on the market, at around fifty cents each.

The making of laurel roping, the Faulders have found, is a tedious though profitable job. Six hours are required to turn out twenty-five yards. This includes gathering the laurel, snapping off the old undesirable growth, transporting it from the woods, and then stringing it. The finished product is sold at the Faulder home for around ten cents a yard.

Despite the fact that laurel is abun-

dant on South Mountain, the Faulders, in recent years, have noted that it is becoming increasingly difficult to find plants that are not marked with brownish spots. Faulder believes that a bad drought of a half dozen years ago is responsible for what he calls "leaf blight." Nevertheless, the family maintains its interesting Christmas business by working a little harder and a little longer. It is not unusual for all members to work throughout the day and far into the night when orders pile up. Such pressure, says Mrs. Faulder, "hardens the water in my hands." This, she believes is due to some substance in the laurel twigs which "tans the skin."

The Faulders take considerable pride in turning out a quality product. No matter how rushed they may be, nor how many unfilled orders there are on hand, their family sense of honesty refuses to allow them to make an inferior product.

Within recent years a machine has been developed for making laurel roping. The writer had occasion to examine this machine-made product at Frederick, Maryland, and in his opinion it does not appear as thick, as dense, or as attractive as the roping made by the Faulders. But apparently it is cheaper. Machine-made laurel roping sold in North Carolina, it is understood, for four and a half cents a yard. Roping made of alternating sprigs of laurel and Virginia pine was recently on sale at Hagerstown for eight cents a yard. It is not known definitely whether this was machine-made, but the chances are it was.

In south Jersey around 1,800,000

yards of laurel roping is produced annually, some of which is shipped as far west as Chicago. Machines have been developed here, it is reported, which will tie up to 5,000 yards of roping a day.

Roping made from hemlock is also apparently increasing in popularity. More than 3,000 yards were used by the city of Wheeling, West Virginia, several years ago. This came from the West and sold for ten cents a yard in 1000-yard lots. It is entirely likely that this was made by machine. Hemlock roping, machine-made, was sold in North Carolina at around seven cents a yard. The western product is considered more attractive.

Faulder, experienced in such matters, mentions that needles fall off rapidly on hemlock roping, especially if it is made too early or improperly stored or transported. Nevertheless, the use of hemlock should be of interest in hemlock, spruce and balsam areas as it suggests the possibility of utilizing for decorative purposes the tops of tree species which are being harvested on pulpwood logging or woodland improvement operations.

But whether of hemlock, pine, or laurel, Christmas wreaths and roping offer a source of extra income to farmers in regions where evergreens grow. The Faulders have enjoyed a substantial Christmas gift from their Maryland mountainside for more than a third of a century—this in addition to providing to their host of friends Christmas cheer originating from this interesting farm woodland undertaking.



Wreaths of laurel, often trimmed with bittersweet, are stored in the Faulder cellar. As many as 500 have been made in a season

YOUR SHADE TREES:

PRUNING FOR CHRISTMAS GREENS

By L. E. MANNING



TREES and shrubs have a superabundance of growing energy to enable them to survive difficult conditions of life. For this reason when in good garden soil with plenty of sunlight they actually grow too much and are benefited—in fact, need—a certain amount of pruning to keep in good health and appearance. Since this pruning must be done anyway, it is the part of wisdom to plan it so that the pruned branches may be of some value, instead of merely brush for the burning. Particularly is this true when one considers the great amount of Christmas greens of various sorts cut each December—usually without plan and with great damage to the plants so despoiled. A little forethought will turn the yearly vandalism into an actual benefit to the countryside.

Evergreen branches of such coniferous trees as fir, spruce and pine are perhaps the most commonly used. Not only some benefit can come to an evergreen tree from proper pruning, but damage can be avoided by the selection of each branch to be taken. A tree produces in youth many more branches than it can use in later life. Each running foot of trunk must lose more than half its branches in order that there be physical room for the remaining ones to thicken into limbs and grow out to the full width of a mature tree. Go out and look at a spruce near you and observe that young ones, about six to fifteen feet high, have a whorl of limbs set perhaps every foot or two up from the ground. Then look at an older spruce and observe that it is a yard or two between the limbs. Obviously, the missing limbs have died out and could have been pruned out without in any way damaging the eventual shape or health of the tree.

Why not get your Christmas greens by systematic pruning? Cut only from young trees, and take, say, every second tier of branches only, as well as any obviously crowded branches. This

may mean cutting from twice as many trees, but the result will be that each such tree makes a thicker, handsomer growth next spring on its remaining limbs, instead of being a skinned stump with a tuft at the top—the usual result of unthinking work.

Holly trees, particularly, should be treated in this manner—or better yet, only limbs the thickness of a pencil or smaller should be severed at all. The American holly is slow to heal pruning wounds and instead of pruning close to the trunk in the ordinary manner should be cut so as to leave a stub of an inch. The following year this stub can be pruned back flush. This same stub-leaving principle should also be practiced with magnolia and cherries, though they of course are not for Christmas use.

There are other evergreen and berry-bearing shrubs which are very useful for December decoration. I have in my yard two which provide all my own needs—one is a hardy form of the English laurel, *Prunus laurocerasus*, *Schipkaensis*, and the other the evergreen *Cotoneaster salicifolia*. The first gives dark green shiny evergreen leaves in abundance, the second a load of small red berries set among bronzy, wine-toned leaves. Were the showy red fruit of the native Winterberry, *Ilex verticillata* available to me I should use that too. All these shrubs are pruned about alike, which is to cut branches all the way in—either to the ground or to a main stem. Such pruning lets light into the interior of the bush and the following spring a more vigorous growth than ever is noticeable. Cutting merely the showy tops of a shrub soon gives it a

dense artificial outline through which no light penetrates and inside which no leaves can grow. It is not merely bad appearance, but bad for the shrub. Cutting a whole branch away fetches forth a new, fresh, vigorous one in its stead and keeps the plant young-looking and lusty.

The mountain laurel is, as everyone knows, a standard Christmas green. It can easily be ruined by top-pruning as the broken branches will not leaf out again. If you are collecting Christmas laurel, taken whole stems cutting them flush with the ground. This actually encourages new shoots to spring up from the ground—often several new ones in place of the one you cut.

Pruning must be considered in the light of a surgical operation, not a major operation like transplanting, but a minor operation. Of course, removing large limbs can be a serious business, but that is not here considered. Nature constantly prunes by the dying back of branches or the effects of wind and ice. No one need be afraid to attempt it, for even a sloppy, careless job is plainly no worse than ice breakage—from which trees nearly always recover in some fashion—whereas a good clean cut is infinitely better than nature can do.

There are only two dangers—one is that the removal of too many branches may so reduce the leaf area of a living plant that its health suffers. This can readily be avoided by cutting in moderation only. I should venture that no more than one-quarter of the entire branch system should be removed in any one year—this is safe and conservative. The second danger is that infection may set in, and is not so simple to guard against:—First, the cut should be clean without breakage of bark surface. For this reason it is usual to make a small undercut beneath the branch before beginning to cut it off from the top surface—thus avoiding split stubs. Second, the cut should be vertical or at least sloping sharply down, so that



rain will not lie on it keeping the surface moist—for bacteria like moist conditions. The third precaution is to make the cut close up to the trunk or main branch, so that the bark will be able to grow over the cut surface in as few years as possible—thus forever closing it against infection. There are a few exceptions to this close cutting, as noted above.

For ordinary Christmas greens, the above are all the necessary rules, but it might be noted that if the cut stub has a diameter of an inch or more some further precaution is usual to protect the cut surface for a year or two. Ordinary paint or tar-dip is oftenest applied, but this has the fault of making air bubbles during the heat of the following summer and underneath such bubbles conditions for bacterial life are ideal. Such painting can sometimes do much more harm than good. Perhaps the best treatment is a mixture of half linseed oil and half bordeaux mixture, which sterilizes the entire surface against all bacteria for about two years and produces no air bubbles. A rag dipped in this and rubbed over the saw before each use also sterilizes the blade and prevents carrying some possible fungous infection from one tree to the other.

It may be added that Christmas is not the very best, but is almost as good as the best time for pruning ordinary trees. Some slight advantage lies in waiting until very late winter (early March) but December pruning is certainly satisfactory for all but the most severe jobs.

It may also be added that flowering shrubs, as distinct from berried shrubs, are usually best pruned just after flowering and it is in every way as good to do it when actually in flower, so that the long sprays of bloom can decorate the house. This is particularly true of spring and early summer flowering kinds. In these days, particularly, it is very satisfying to make useful what might otherwise be wasted.

As to Christmas trees: There are two ways of getting them. One is to prune the right sized and shaped tree at the base; in other words, cut it down. The other way is to take out the top of a tree larger than needed and leave the rest standing. A topped-out coniferous tree is forever afterwards worthless. Either cut it down in the first place or let it alone.

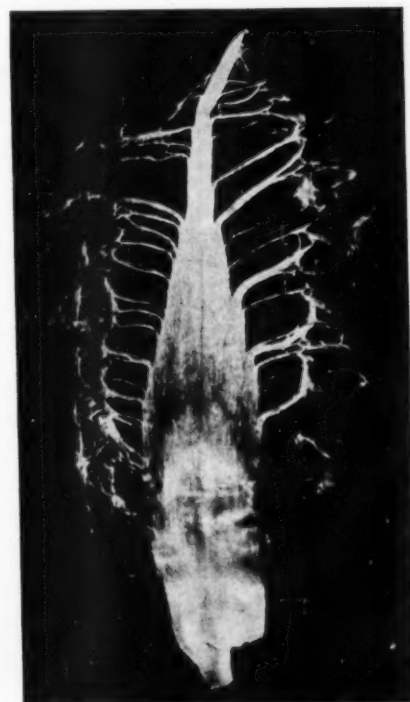
Many pine and spruce plantations need "thinning out" about the time their branches interlock, which is usually about the time they are Christmas tree size. The removal of the less promising trees increases the growth rate of those left standing. If you have a plantation Christmas time is the best season to thin it—because there is always a good demand for Christmas trees.

TREE QUIZ

NUMBER TWO

By "MOOSEWOOD BILL"

1. Do "winter buds" first appear in August, December, or March?
2. Blindfolded, could you separate by touch the cones of Douglas fir and Sitka spruce?
3. What are "naval stores"? What two trees produce most of them in this country?
4. What is the best way to separate the twigs of any hickory from those of any walnut no matter where found in the world?
5. Why does hickory wood make the best ax handles?
6. Is "yellowpoplar" a true poplar?
7. Why does hemlock make poor firewood to use near a tent?
8. What is the tallest tree in the world?
9. Can you tell the age of a pine tree without cutting into it?
10. Why should a common native pine tree of the Lake States be called "Norway" pine?



Courtesy McGraw-Hill Book Company

What Is It?

FOR ANSWERS—TURN TO PAGE 603

PECAN

Carya pecan, (Marshall) Britton

By G. H. COLLINGWOOD

ALTHOUGH belonging to the hickory family, and known for its excellent wood, pecan lays claim to commercial importance through its delicately flavored nuts. The name is of Indian origin and refers to the

nuts which have since been developed to form an important article of commerce. It is a large tree with a massive trunk and stout, spreading branches which, under forest conditions, form a narrow, symmetrical, inverse pyramidal crown, and in open-grown trees form a broad, rounded crown. Occasionally trees are found having heights of a hundred and sixty or seventy feet, and with trunk diameters of six or seven feet, but usually the pecan is ninety to a hundred feet high with trunk diameters of two and a half to four feet.

The range of pecan has been greatly widened by cultivation. Its natural range extends southward from eastern Iowa through southern Illinois and southern Indiana, western Kentucky, western Tennessee, central Mississippi and Alabama to Louisiana, and west to Missouri, southeastern Kansas, eastern Oklahoma through Arkansas to central Texas and Mexico. It is a tree of



Ripening in September or October, the thin shelled, clustered nuts have tasty kernels which are high in food value



Largest member of the hickory group, the stout spreading branches of open-grown Pecan trees form broad rounded crowns

bottomlands demanding the rich moist soils along streams and rivers. It reaches its greatest size in the Ohio basin. Never found in dry locations, it will thrive, however, when planted on drier sites.

Pecan is the largest of the hickories, as well as the longest lived, and trees three hundred and fifty years of age or over have been found. In its early stages pecan grows rather rapidly, and faster than any other hickory.

Bark on the mature trunk is light brown or gray, about one to one and a half inches thick. It is deeply and irregularly broken into narrow perpendicular ridges that are cracked into small, thick, appressed scales.

Twigs are rather slender. When young they are somewhat tinged with red and loosely covered with hair, later occasionally becoming smooth and marked with lenticels or pores. The sharply pointed, hairy terminal winter-buds measure a half inch in length, while those growing along the twigs are smaller, less pointed, and are sometimes borne on stalks.

Leaves are pinnately compound, measuring twelve to twenty inches in length. They are arranged alternately on the twig, and have nine to fifteen short-stalked, finely toothed, sharply pointed leaflets varying from four to seven inches in length. Appearing in April or May, the slender, pendulous staminate or pollen-bearing catkins are about five inches long, and are borne near the ends of twigs of the preceding year, or occasionally on the young shoots of the current year. The small, inconspicuous, greenish pistillate or seed-producing flowers occur in spikes at the ends of twigs.

Ripening in September or October, the dark brown nuts, which measure from one to two and a half inches in length, are borne in clusters of three to eleven, and are covered with thin husks that break into four sections to release the nut. Husks frequently remain on the tree during the winter.

Pecan is the most important nut tree native to North America, and several varieties have been developed which produce nuts of larger size and improved quality. Although grown in commercial plantations, large quantities of the nuts on the market come from wild trees. Pecan nuts are remarkable for their high food value.

Wood of pecan weighs forty-six pounds to the cubic foot when dry, and is ring-porous, heavy, hard, brittle, not strong, compact, and has many inconspicuous medullary rays. Heartwood is light brown, tinged with red, and the sapwood paler. It is chiefly used for fuel, occasionally for agricultural tools which do not require special strength and for furniture.

Pecan reproduces by seed and by sprouts from younger stumps. Never forming pure stands, it occurs in groups or singly in mixture with gum, oak, and ash. Because of its moist habitat, it is seldom damaged by fire. It is, however, subject to attack by the hickory bark beetle and to injury by frost. It is frequently used as an ornamental and shade tree in the coastal areas south from Maryland.

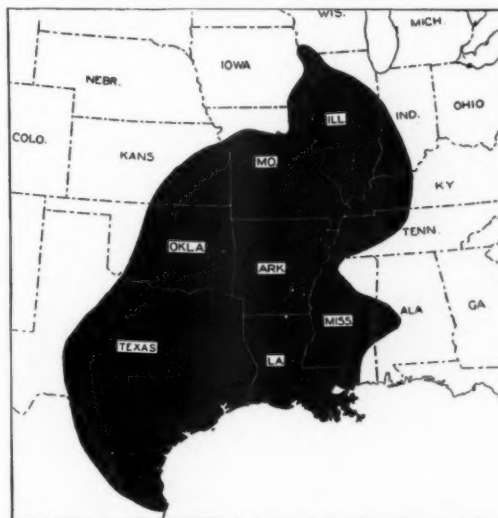
Another name for this tree is "*pecanier*" given to it by the Acadians. The scientific name *carya* comes from the Greek word "*karua*" which means walnut tree.



Pollen-bearing flowers appear in early June on the twigs of the preceding year, and the leaves, which resemble those of other hickories, have more leaflets than other species



The thick bark of mature trunks is light brown or gray, and is broken into perpendicular ridges that are cracked into small scales



Natural range of Pecan

What Was the Early Indian Dog?

(From page 573)

dog breeds were possibilities in the great number of Assiniboine dogs. Shortly after this visit, the Indians visited Henry, and on the trip approximately 400 dogs were used in part of the pack train, moving the large village.

Garrard, while among the Cheyenne Indians in the late 1840's, observed this tribe in their moving operations in Colorado. "Many of the largest dogs were packed with a small quantity of meat, or something not easily injured," he noted. "They looked queerly, trotting industriously under their burdens; and judging from a small stock of canine physiological information, not a little of the wolf was in their composition."

In the Northwest, some of the naturalists connected with the early railroad surveys have left accounts that show strong possibilities not only of Indian dog and wolf interbreeding, but also of Indian dog and coyote breeding.

While contacting the Klamath Indians in southern Oregon in 1843, General John Charles Fremont reported that "numbers of singular-looking dogs, resembling wolves, were sitting on the tops of huts." In writing of the dog found on the Klamath, Gibbs described it as "a dog of good size, with a short tail. This is not more than six or seven inches long, and is bushy, or rather broad, being as wide as a man's hand."

Writing on the comparison between a pointer dog and a coyote, Coues observed: "We continually find dogs of both sexes on the frontier, deserting their haunts at particular (sexual) periods; and if the occurrence of a feral wolf-dog (coyote female and dog male) has not been recorded, there are numerous cases of the production of the same

(from coyote male and dog female) in domestication. . . . Indians not unfrequently bring it about themselves; on suitable occasions they picket out their female dogs over night, to procure the cross, with constant success. What profitable quality is secured I do not know; but such is the case. These crosses are not known to be otherwise than fertile; and the result is in every Indian community there are mongrel dogs shading into coyotes in every degree; all having clear wolf strain."

Reduction in the weight of paper used in this and subsequent issues of AMERICAN FORESTS, as well as other economies effected, have been made in compliance with regulations issued by the WPB. Editor.

R. E. Bateman, district agent of the Fish and Wildlife Service, stationed at Billings, Montana, has had considerable experience in breeding dogs, wolves and coyotes. In 1939 he reported:

"The cross between the male coyote and the female fox-hound produced a dog about thirty-seven to forty pounds with very small, compact feet, practically the same as a purebred coyote. The female which I raised was a light tan color with a white ring around her neck. She was very friendly and would run with the fox-hounds and trail and bark on

the trail. I crossed this female to a purebred fox-hound, which gave me three-fourths hound and one-fourth coyote. These coyotes ranged around thirty-five pounds and were of very slight build. This was due to the fact that the male fox-hound was very rangy and slimly built. The feet of these pups were so much like coyotes that I do not believe anyone could have told the difference between them and a pure-bred coyote. They were very speedy and had plenty of grit. . . . The cross was very satisfactory in every way. . . . They make a good all-round dog."

This experiment would lead to the opinion that the cross of Indian dogs with coyotes produced some of the small halfbred dogs which our early western Indians, trappers and pioneer plainmen, when in dire circumstances, so commonly used for food; and that those of the larger breed, the result of Indian dog-wolf breeding, became beasts of burden.

Mr. Bateman also crossed a purebred greyhound with a female wolf. The whelps, half wolf and half greyhound, developed into strong animals, but instead of breeding some of the wild nature out of them, they were more vicious and more difficult for a stranger to make friends with than a purebred wolf. A female from this crossing was then bred to a purebred fox-hound. The result was a litter of five that were more docile.

The same female wolf was crossed once more, this time with a purebred police dog. The result was a litter of whelps that would pass for fullbred police dogs, but of bad disposition. A male of this litter was then bred to a purebred female police dog. The quar-

(Turn to page 603)

TREES AND THEIR USES—No. 80—PECAN



Four-day miracle on ADAK

ADAK ISLAND is a fog-shrouded dot in the Aleutians—a bleak, bare rock, blasted by Arctic gales. On nearby Attu the Japanese worked for eleven months trying to scratch out a landing field. On Adak the U. S. Army Engineers took their "Caterpillar" Diesel Tractors in through the surf, and *in 96 hours an American fighter plane landed on the strip they had built!* Less than two weeks later the airfield was ready for our biggest bombers.

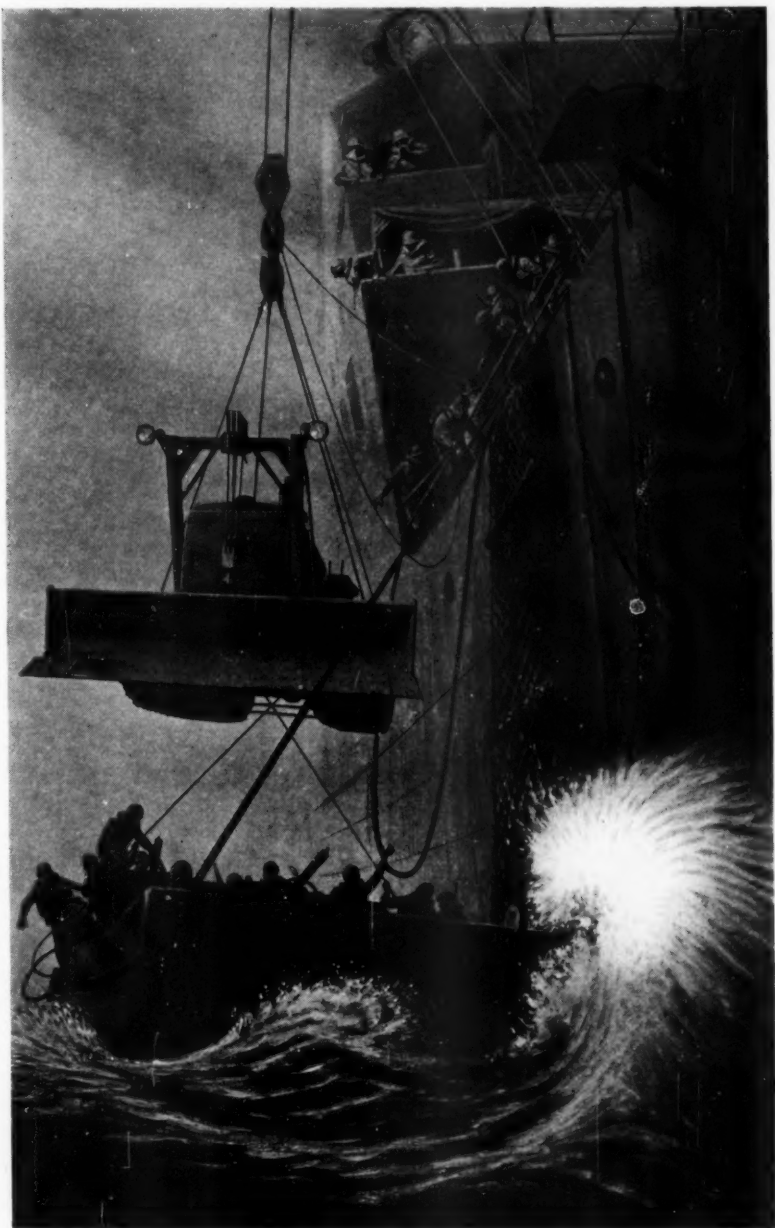
Those tough Yank Engineers finished the job before they stopped to make a shelter for themselves, though the icy wind blew 75 miles an hour. They were the same men who had built the Alaska Highway, driving the same rugged "Caterpillar" Diesels. "The impossible," they say, "we do immediately. The miraculous may take a little longer."

Wherever Allied fighters push forward, "Caterpillar" Diesel Tractors, Graders, Engines and Electric Sets are in the thick of the advance. They are built to stand up and deliver full power, month after month, under the worst possible conditions. And the vital jobs they do for Army, Navy

and Marines are literally numbered by the hundreds.

Today, and as long as it may take to win this war, the armed forces have first call on "Caterpillar" production. When victory comes, the war-tested advantages of "Caterpillar" Diesel

power will be available for a host of peacetime uses. And the "Caterpillar" dealers, now devoting their skill and energy to the maintenance of older machines on the home front, will again be able to supply civilians with sturdy new "Caterpillar" Diesels.



CATERPILLAR DIESEL



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AFA Nominates Officers for 1944

THE Committee on Elections of The American Forestry Association has nominated the following slate of officers for the Association for 1944:

For President: W. S. Rosecrans of California; *for Treasurer,* I. J. Roberts of Washington, D. C., assistant vice-president, Riggs National Bank.

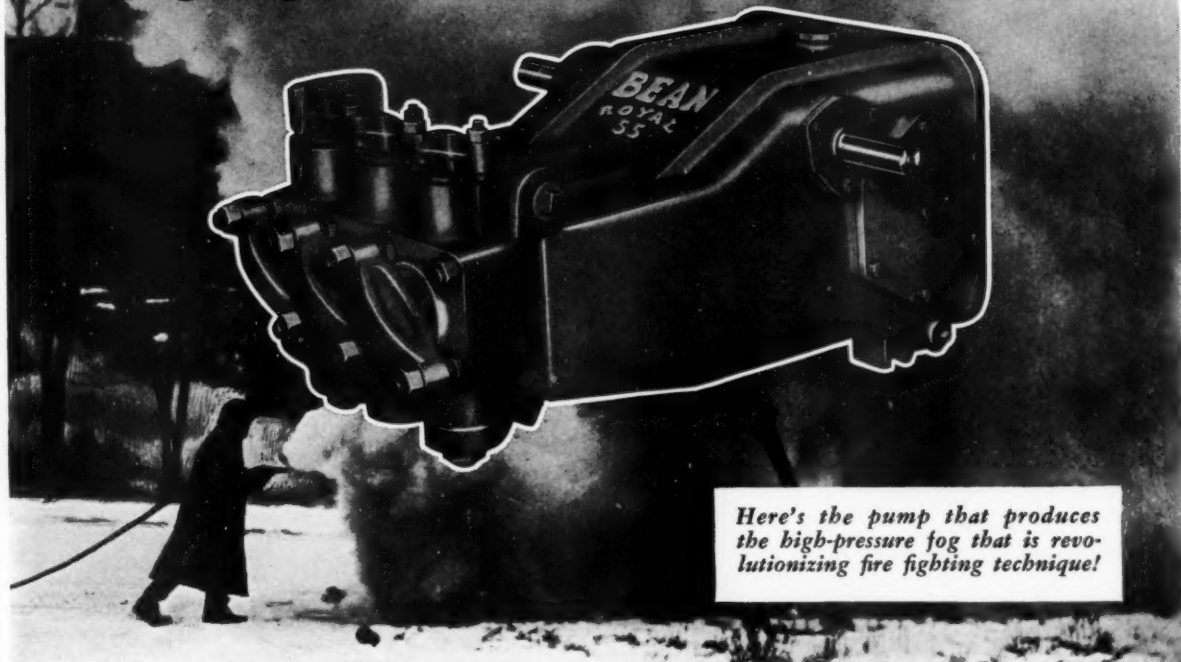
Directors for five-year terms: Louis Bromfield of Ohio, author and president of Friends of the Land; William B. Greeley of Washington, secretary-manager, West Coast Lumbermen's Association; and Walter H. Meyer of Connecticut, Yale School of Forestry.

Director for two-year term: Henry P. Kendall of Massachusetts, New England Council.

For the twenty-one Vice-Presidents: Thornhill Broome of Illinois, Izaak Walton League of America; Victor M. Cutter of New Hampshire, former chairman, New England Regional Planning Commission; J. N. Darling of Iowa, honorary president, National Wildlife Federation; Colonel Arthur F. Fischer of Washington, D. C., advisor, Natural Resources, Philippine Islands; Mrs. T. M. Francis of Alabama, Conservation chairman, General Federation of Women's Clubs; Mrs. Louis J. Francke of New York, chairman, Conservation Committee, The Garden Club of America; John D. Guthrie of Virginia, chairman, American Forest Fire Medal Foundation; Edmund Hayes of Oregon, chairman, Keep Oregon Green Association; Paul G. Hoffman of Indiana, chairman, Committee for Economic Development; Augustus S. Houghton of Connecticut, New York State Reforestation Commission; Don P. Johnston of North Carolina, manufacturer; Irving H. Larom of Wyoming, president, Dude Ranchers' Association; Aldo Leopold of Wisconsin, The Wilderness Society; Glenn L. Martin of Maryland, president, League of Maryland Sportsmen; Duncan McDuffie of California, president, Sierra Club; Julian McGowin of Alabama, director, Southern Pine Association; James G. K. McClure of North Carolina, president, Farmers Federation; Mrs. George D. Pratt of New York; Dr. Henry Schmitz of Minnesota, president, The Society of American Foresters; Harper Sibley of New York, vice-chairman, United Service Organizations, Inc., and Lowell Thomas of New York, commentator and author.

This slate, nominated by the Committee on Elections, will appear on the election ballot to be mailed to all members of the Association in December.

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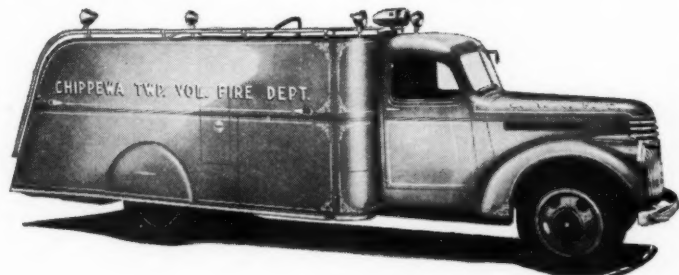
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CONSERVATION IN CONGRESS

TWO conservation items were stricken out of the First Supplementary National Defense Appropriation Bill (H.R. 3598) before it passed the House on November 5. The first was the \$7,500,000 increase requested by the Bureau of the Budget for the guayule rubber project. The elimination of this item precipitated a fight on the floor of the House, and resulted in Representative Anderson, of California, introducing a resolution (House Resolution 364) to instruct the House Committee on Agriculture to study the entire guayule rubber situation. No action on this resolution has yet been taken. The other item struck out was for an increase of \$25,000 for studies of chemical means of stimulating the flow of turpentine and rosin from pine trees.

The House approved in this bill \$19,000 for food fish investigations by the Department of Interior and \$7,563 for migratory bird conservation. \$10,000 was approved for the International Pacific Salmon Fisheries Commission of the State Department.

On October 14, the House Committee on Ways and Means held a hearing on the proposal of the Forest Industries Committee on Timber Valuation and Taxation to add certain paragraphs to Sections 23(a) and 117 of the Internal Revenue Code, to rectify an illogical method of taxing forests under the federal income tax. (See page 539 November issue.) If the Committee adopts these proposals they will be incorporated in a Committee bill. Hearings on this matter will be held later before a Senate Committee. (House Committee hearings are reported in Part 8 of the Revenue Revision of 1943, Committee on Ways and Means, House of Representatives.)

Hearings on the lumber situation reported on in the November issue have been published in Part 22 of the "Hearing Before the Select Committee to Con-

duct a Study of National Defense in Its Relation to Small Business." The Committee will hold another hearing in New Orleans, Louisiana, on November 29 and 30.

The Denver hearings before the Senate Subcommittee on Public Lands and Surveys on a number of public land bills scheduled earlier in the autumn have been postponed until November 15 and 16.

The report of the House Committee on the pulpwood situation has not yet been issued.

CONSERVATION CALENDAR

Important Bills in Congress
With Action
Oct. 5-Nov. 9, 1943

Public Lands

H. R. 3424—HAGEN—To authorize payments in lieu of taxes to States and political subdivisions thereof in which real property has been acquired by the United States for military purposes, Indian lands, wild life refuges, national forests, and national parks. Referred to House Committee on Public Lands October 11, 1943.

S. 1463—HATCH—To amend the Act of July 4, 1836 (Stat. 107) entitled to reorganize the General Land Office. Referred to Senate Committee on Public Lands and Surveys October 19. Companion bill H. R. 3632—BENNETT of Missouri—November 8, 1943. Referred to Committee on Public Lands.

S. 1515—MURDOCK—To reserve certain lands on the public domain in Utah for addition to the Kanosh Indian Reservation. Referred to the Committee on Indian Affairs November 5, 1943.



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BUY WAR BONDS AND STAMPS REGULARLY

National Parks and Monuments

S. 378—HAYDEN—To provide for the addition of certain lands in the State of Arizona to the Montezuma Castle National Monument. Passed Senate June 15. Passed House with amendment October 4; amendment concurred in by Senate October 12. Signed by President October 19, 1943.

H. R. 3524—RANDOLPH—To provide for the establishment of the Harpers Ferry National Monument. Referred to the House Committee on Public Lands October 25, 1943.

National Forests

S. 1315—Providing for custody and control of the Secretary of the Navy of certain lands comprising a portion of the Croatan National Forest in the State of North Carolina. Passed Senate October 12. Referred to House Committee on Agriculture October 14, 1943.

Wildlife

H. R. 2924—To give effect to the Provisional Fur Seal Agreement between the United States and Canada. Passed by House October 18 and referred to Senate Committee on Commerce October 19, 1943.

Miscellaneous

S. 1498—STEWART—To supplement the Federal-Aid Road Act of July 11, 1916, as amended and supplemented, to authorize appropriations post-war construction of greatly needed rural roads. (Including those needed for forestry.) Referred to Committee on Post Offices and Roads November 2, 1943.

H. R. 364—ANDERSON of California—To provide for an investigation of the program for planting of guayule to serve as a domestic source of crude rubber. Referred to Committee on Rules November 5, 1943.

Appropriations

H. R. 3598—First Supplemental National Defense Appropriation Bill 1943. Passed House November 5, 1943.

ERRATA

On page 469 of the October issue, under the heading "Sawmills—Big and Little"—it is stated that "Sawmills vary in size from those cutting 100,000,000 feet a day," etc.

Obviously, this 100,000,000 figure is in error. Even Paul Bunyan couldn't perform such a herculean task. The figure should have been, and was intended to be—1,000,000 feet a day. We're sorry.



This is a field worth fighting for!

You know this field—or one just like it. You have tramped its yellow stubble when the air was crisp and the leaves were red. You have seen cottontails scuttle through a thicket, the thrilling flight of a pheasant, the bursting of a covey of quail.

Boys who found adventure in this field have grown up and gone away—many of them to European fronts, to the South Pacific, to Alaska. But when they think of home, this field is one of the things they like to remember—a crisp, crackling autumn day, the open season, that great-to-be-alive feeling when a man and his dog walk out on the land.

For more than a century, Remington, as a maker of sporting arms and ammunition, has been a part of this American scene. But today, like the boys who have gone from the field, we have another job to do.

A full report of Remington's war production story cannot, of course, be given now. But these facts may interest you...

1. Since Pearl Harbor, Remington has produced **three times as much military small arms ammunition as was produced by the entire country during all the four years of World War I.**

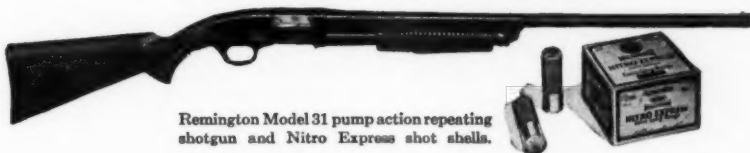
2. Every working day, Remington produces more than enough military rifles to equip an entire infantry regiment at full fighting strength.

Like every American, we look ahead to the time when a man and his gun will again be headed for peaceful days in the woods and fields. When those days come, we'll again be serving our sportsmen friends with Remington rifles and shotguns, Nitro Express shells, Kleanbore Hi-Speed .22's, Core-Lokt big game bullets. Remington Arms Company, Inc., Bridgeport, Conn.

"Nitro Express," "Kleanbore," and "Hi-Speed" are Reg. U.S. Pat. Off.; "Core-Lokt" is a trade mark of Remington Arms Company, Inc.

Remington

DU PONT



Remington Model 31 pump action repeating shotgun and Nitro Express shot shells.

BURNING AN EMPIRE, by Stewart H. Holbrook. Published by the Macmillan Company, New York. 229 pages, illustrated. Price, \$2.50.

Readers will recall Stewart Holbrook's vivid descriptions of historic forest fires originally published in *AMERICAN FORESTS*. These accounts, together with graphic reports of other conflagrations and some philosophizing on their consequences, are now available in book form.

Throughout, *Burning an Empire* explains the causes and effects of forest fires in both general terms and dramatic examples. Moreover, it suggests some of the steps that can be taken toward absolute prevention of fires, which the author believes is "the chief problem of forestry." He prescribes continuous education of the younger generations by every approach and much better enforcement of forest laws violated by case-hardened adults.

Historians may disagree with the author's conclusions that "during the past century and a half forest fires have probably killed more pioneers than all of the savages put together." Foresters may insist that the fundamental reason for the deterioration of forest resources, which the author ascribes to the cumulative effect of repeated forest fires, is over-cutting rather than forest fires *per se*. But none can deny the convincing manner in which the devastating effects of uncontrolled forest fires are presented.

Mr. Holbrook's eighth book since 1938, when *Holy Old Mackinaw* was published, is not merely a chronicle of the human interest elements in catastrophes resulting from rampaging forest fires. He shows how the basic economy of many large fire-ridden areas has been altered and how a new silviculture has developed in the big burns.

This is a book well worth reading, not so much because of its melancholy toll of fire losses in lives, property and the intangibles, but because of the opportunities for improvement noted in the concluding chapter, appropriately captioned "A Long, Hard Row."

FORESTRY IN NEW ENGLAND, by Henry G. Baldwin. Publication No. 70, National Resources Planning Board, Region One, 2100 Federal Building, Boston, Massachusetts. 148 pages, maps and graphs, mimeographed.

Forests are distributed on a regional basis but forest laws are generally state creations and forest statistics are mostly compiled on a state basis. New England does not quite constitute a forest region but it is sufficiently a regional unit so that the information compiled in this publication is of great value. The recommendations for future action appear sound and well expressed.

NEW BOOKS and OTHER PUBLICATIONS

A list of Selected Books on Forestry and related fields of Conservation is available to members of The American Forestry Association on request.

TREE IN THE TRAIL, by Holling Clancy Holling. Published by Houghton Mifflin Company, The Riverside Press, Cambridge, Mass. Illustrated in color, with color map by Lucille Webster Holling. Price \$2.50.

The fascinating story of a great old cottonwood which began its life on the Great Plains in 1610 and became a landmark on the Santa Fé Trail. In its heart it bore evidence of the history it witnessed in the making, — two stone arrowheads from early Indian days, the blade of a Spanish dagger and, later, iron arrow points and lead balls from the gun of a French trapper. Succumbing to old age in 1834, the lonely giant fell.

Strikingly illustrated in color, the pages are also embellished with accurate wash drawings of maps and other interesting details pertinent to the times. A gift book *par excellence*,—particularly for the young.

THE AMERICAN LAND, its History and its Uses, by William R. Van Dersal. Published by Oxford University Press, New York, 1943. 215 pages. Price, \$3.75.

This book is a sort of sandwich. Its first two and last two chapters deal with land as such. The intermediate chapters deal with crops, edible or otherwise, produced from lands of different character. Those interested in the history of land use, the fitting of such uses into logical patterns, the protection of lands from erosion and similar subjects, will find the outside layers of the sandwich the more interesting. Those whose interest is in crops will find the inside

layer arranged in a sort of stratified club sandwich pattern, in chapters on grains, cotton and flax, vegetables, fruit trees, forests, livestock and so on. These intermediate layers are interesting feeding—total or selective. If, for example, you want to know where and how eggplant is grown—and its vital statistics—all you have to do is look in the index for the page reference.

This book would make a good Christmas present for a victory gardener whose interest in growing things has been stimulated by attempting to produce, let us say, an edible eggplant—assuming that such a feat is possible!

THIS IS OUR LAND, by E. G. Cheyney and T. Schantz-Hansen. Published by the Webb Book Publishing Co., St. Paul, Minnesota. 337 pages, illustrated. Price \$3.00.

This is the story of forest conservation in America—set in correct historical perspective. Its authors—both well known conservationists and educators—tell a vivid story of the vast resources of this land we love and trace the tragedy of the useless waste to which they have been subjected. Stressing nature's inexorable punishment of misuse of her treasures, they commend constructive efforts already being made and urge unified, vigorous programs of conservation for the future.

SHELTER TREES IN WAR AND PEACE, by Ephraim Porter Felt, D.Sc. Published by Orange Judd Publishing Company, New York, N. Y. 320 pages, illustrated. Price \$2.50.

This book emphasizes the importance of trees as a form of camouflage and protection in wartime, for both military and civilian installations, as well as their value as health and morale builders. It gives useful information on the care of growing trees during building and road construction. There is also valuable material on the selection of trees for shelter planting in different localities, their general care, their requirements, and some information on the diseases that may beset them. It is copiously illustrated with excellent photographs.

FADING TRAILS, prepared by a Committee of the United States Department of the Interior, National Park Service, Fish and Wildlife Service. Published by the Macmillan Company, New York, N. Y. Price \$3.00.

Many forms of American wildlife have been approaching rapid extinction because of the thoughtlessness and even cruelty of man in the onswEEP of civilization; some species have disappeared altogether. This book points out the necessity for the preservation of all kinds of wildlife in maintaining nature's bal-

ance. It describes the discovery, exploitation and present condition of a carefully selected list of vanishing American mammals, fish, and birds and presents a strong plea to Americans to wake

up to the need for restoring and preserving our wildlife resources insofar as possible. No American who reads this book will fail to respond to its stirring appeal.

Forests Under Hitler

(From page 570)

ter, much may be learned by reading between the lines of the following item published in June by a German controlled paper in Ghent, Belgium: "In 1942, about 25,250 tons of scrap paper were recovered. This, however, was insufficient, especially now that woodpulp and cellulose are no longer available. In the beginning collections by school children were satisfactory, but these diminished gradually and a new impetus must be given to this activity."

In an apparent desperate search for scrap, Germany is confiscating public and corporate records in the occupied countries. Could it be that the Nazis as a side issue want to make it difficult for liberated countries to unscramble their affairs when peace comes? At any rate, German rationing of printing and writing paper is not uninfluenced by the attitude of the recipients toward the Nazis. It was reported that the last Catholic journal in Germany has had to cease publication because of lack of paper. In Holland, school copy books have been cut to fifty percent in writing space. Properly accredited scientists and scholars may secure added supplies of writing paper in France. Would a non-colaborating French scientist or scholar be properly accredited? In the light of severe shortages, not the least of the miracles of the flourishing underground press in all the occupied countries is that they get the paper to print on.

It has recently been reported from Algiers that their total circulation exceeds 800,000 copies in France. Another factor in the paper shortage is the greatly increased use of cellulose for textiles, plastics and food. It is common knowledge that all Europe is hungry. The Nazis make a tacit admission when they boast that they will be the last to starve. The forest is helping the food shortage in old and new ways. People are gathering nuts and edible field fruits on greater scale; flour is being diluted with acorn meal and sawdust; wild berries are roasted to make coffee substitutes; and tobacco is adulterated with dried tree leaves and wood shavings. The meat supply furnished by forest game is a considerable item in Germany's war larder, which she has so far as possible pre-empted for her own use.

There is not much evidence of large clearing of forests for food production although some is reported to have taken place in Switzerland, and from France

come reports of attempts to utilize all crop land regardless of consequences to the soil. In Germany it is required that all waste lands within forests be cultivated. In April, NDZ had this to say: "The Reichmaster of Forestry points out that plots of land temporarily lying fallow in forests can be used for growing food. Forestry authorities and forest workers should be instructed in the cultivation of this land. Very often they can look after these small cultivated plots on their way home from work."

Germany's chief contribution to the food problem from forests is the original one of developing sugars and protein from wood. Perhaps the following item from the German news agency, Transocean, in February, includes a bit of Nazi propaganda, but it indicates a whole new field of wood use: "Chips of wood from Europe's forests would suffice to fill the ten percent gap in Europe's food supply, according to a statement made by Professor Friedrich Bergius, the famous chemical expert. Bergius, who is a Nobel Prize winner, said that it was possible to extract several million tons of albumen annually from chips of wood alone, and he pointed out that today millions of Germans were eating sugar and albumen derived from wood without knowing it. He said that it would not be difficult to turn wood pulp into sugar, and the sugar into fat if the sugar were fed to pigs.

"But it is more difficult to turn wood sugar into albumen. No human being could live without animal albumen to which albumen derived from yeast corresponded. Yeast which is fed on sugar multiplies very rapidly. Two pounds of yeast when thrown into a tub with liquid sugar, will multiply more than a thousand times in ten hours. Today wood sugar is being converted into albumen in Germany according to this principle. One cubic meter of wood yields the food value of two and a half pigs. A cubic meter of wood transformed into alcohol is sufficient for the manufacture of 100 litres of alcohol."

* * * * *

So far nothing has been said specifically about lumber. From a German point of view, this is perhaps the most important of shortages. It will be discussed in a future article along with an account of Germany's attempt to deal with the whole forest situation by grasping all forest resources of the continent.

A "Billiard" shape
FLAME-GRAIN Kaywoodie,
\$10.00.



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Put your tobacco in a Kaywoodie. When you do, you entrust it to a briar so good (brought from the Mediterranean before the war) and so thoroughly prepared, we believe it has no equal. Men all over the world say "I smoke a Kaywoodie."

When you buy a pipe, look for "Kaywoodie," cut unobtrusively on the stem—assurance that you're not getting apple wood, dogwood or maple.

This Mediterranean briar is seasoned and cured beyond anything done to other pipes. Yields the most delicious flavor you ever enjoyed from a pipe.

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Letter to a P.O.W.

WILL YOU WRITE a letter to a Prisoner of War . . . tonight?

Perhaps he was left behind when Bataan fell. Perhaps he had to bail out over Germany. Anyway, he's an American, and he hasn't had a letter in a long, long time.

And when you sit down to write, tell *him* why you didn't buy your share of War Bonds last pay day—if you didn't.

"Dear Joe," you might say, "the old topcoat was getting kind of threadbare, so I . . ."

No, cross it out. Joe might not understand about the topcoat, especially if he's shivering in a damp Japanese cell.

Let's try again. "Dear Joe, I've been working pretty hard and haven't had a vacation in over a year, so . . ."

Better cross that out, too. They don't ever get vacations where Joe's staying.

Well, what are you waiting for? Go ahead, write the letter to Joe. Try to write it, anyhow.

But, if somehow you find you can't finish that letter, will you do this for Joe? Will you up the amount of money you're putting into your Payroll Savings Plan—so that you'll be buying your share of War Bonds from here on in? And will you—for Joe's sake—start doing it right away?

This space contributed by

AMERICAN FORESTS

This advertisement prepared under the auspices of the War Advertising Council and the U. S. Treasury Department

Indian Dog

(From page 594)

terbred whelps were more docile.

Frank Glaser, one of the Fish and Wildlife Service predatory animal hunters in Alaska, had a valuable team of four wolf-dog crossbreeds which he obtained by crossing a male wolf with a female Eskimo dog. These crossbreeds were large, strong, powerfully built, and very wolf-like in appearance.

Like the observations of explorers and naturalists over four centuries, these experiments are helping solve the puzzle of the early Indian dog. They provide a basis for clearer understanding of what has happened since the prehistoric dogs following the Mongoloids out of Asia to the wolf habitats of North America.

In the January issue Mr. Young will tell of the Labrador dog-wolf, more about the Eskimo breeds, and the amazing story of "Old Three Toes."—Editor.

ANSWERS

To Tree Quiz No. 2

[Illustration is a single bud scale, magnified, of longleaf pine.]

1. Winter buds are formed in middle or late summer, and can be used for identification from late August through the fall, winter, and early spring.

2. Yes. By feeling of the long, forked bracts which in Douglas fir project from between the scales. Douglas fir is often called the tree with the "mousetrap cones."

3. Turpentine and rosin; longleaf and slash pines.

4. Slice the twig lengthwise and look at the pith. Walnuts have chambered pith (partitions crosswise), hickories have solid pith.

5. Because of its extreme toughness and resistance to sudden shock.

6. No. Yellowpoplar, or tuliptree, belongs to the magnolia family.

7. Because the wood is noted for throwing hot sparks some distance from the fire.

8. Although there have been claims made for Australian eucalyptus trees which were once standing, the tallest living tree appears to be a California redwood with a height of 364 feet.

9. Yes, counting the so-called false whorls of branches. In such species as white and red pines, one whorl is produced each year. However, in pitch and jack pines, and the southern pines, two or three may occur each season.

10. Some think that it was because the tree was found in great numbers near the town of Norway, Maine; others say the early voyageurs mistook it for the Norway spruce of Europe—a very grave mistake if true.



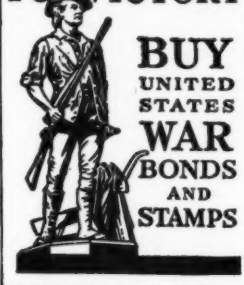
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Other Plants at Frankfort and North Creek, N. Y.; Jackson, Miss.

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WAR BONDS
WILL BEAT
THE ENEMY!**

Experience gained through the handling of Navy Contracts has equipped us to serve better than ever old customers and new in the portable pump field.

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| 2 yr. Austrian Pine..... | 15.00 |
| 2 yr. Colorado Blue Spruce..... | 10.00 |
| 2 yr. Scotch Pine..... | 15.00 |

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White Spruce, Colorado Blue Spruce, etc. Prices are
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Fryeburg, Maine

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WILL
BEAT THE ENEMY!**

HANDBOOK of TREES

Photodescriptive. Covers all the trees east of the Rockies and north of the Gulf States. 700 illustrations, 191 maps. Buckram, \$6.

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COMPOUND LEVER
TREE TRIMMERS

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Available on Priorities
Send for Supply Catalog
on Care of Trees

BARTLETT MFG. CO., 3019 E. Grand Blvd.
Detroit, Mich.

Growing Cork in the South

(From page 584)

wood has decayed—but the cork remains in the form of a hollow shell.

Georgia has approximately twenty cork oaks, some very old. Records of former trees show that early plantings were made in this state. A large oak was growing at Daphne, in Sumter County, twenty-five years ago, which grew from an acorn produced by a much older tree. For more than fifty years the Fruitland Nurseries at Augusta have been growing cork trees as ornamentals.

There are five widely scattered cork trees in Alabama. These and records of others that formerly grew there show that many parts of Alabama are well suited for cork production. Six cork trees about six inches in diameter and twenty feet tall have been found in Shreveport, Louisiana. These were planted about 1933.

Florida has three cork trees in the Pensacola area that have survived severe storms, unfavorable damp locations and damage by grazing cattle. A tree about eighteen inches in diameter formerly grew at Dade City, and several have grown in the vicinity of Jacksonville. Some years ago a planting of cork trees was made on the campus of Texas Agricultural and Mechanical College.

No cork oaks have been located in other southern states, but a few years ago a tree, seven inches in diameter, was growing in Saint Mary's County, Maryland. Also, agricultural records show that cork trees have been planted in Wayne County, Mississippi.

It is obvious that cork oaks can be grown where large trees are now growing or have grown. Planting tests are being made to determine other sections suitable for planting. An exhaustive study of soil, rainfall and temperature conditions in the United States has been made and this data compared with that of the cork producing sections of Spain and Portugal. From this study a map of the potential cork producing areas in this country has been prepared. While this may serve as a planting guide, seedlings and acorns have been distributed to persons outside the theoretical cork growing area. It is entirely possible some of the sections indicated as less desirable for growing cork may be found very suitable.

During 1942 more than 1,600 small cork seedlings were distributed in the South. All were shipped from the Fruitland Nurseries, Augusta, Georgia, and, although many were several days in transit, seventy-five percent survived transplanting. Some of these were planted in neighborhoods and counties where old cork trees were growing; others went

into states or sections having no records of prior cork plantings.

Last fall and winter more than 3,000 pounds of cork acorns were distributed in thirteen southern states. Many were planted in state-owned nurseries, but some were planted permanently on private as well as state land. In addition to these acorns, the United States Forest Service made a substantial planting in several acres.

The quality of the cork taken from trees in selected sections has been found to be of high quality.

Along with the planting of cork trees, interesting experiments are in progress. Many of the large cork oaks in the South do not bear acorns, and efforts are being made to cause these trees to fruit because the acorns are needed for planting. These trees are being given special care and scions from prolific California cork oaks have been grafted to some of them. Tests are also being made on the storage of cork acorns. In sections where the winters are cold, early spring is preferable to fall for outside planting. Acorns, therefore, must be kept in cold storage until planted in order to preserve their viability. So far temperatures of thirty-two to thirty-four degrees have proved successful.

Propagation by seedlings is being compared with direct acorn planting. The cork oak develops a long tap root and care must be exercised in transplanting bare root stock. The use of tall paper pots which can be placed in the ground eliminates root injury during planting. Direct acorn planting is desirable in many places but squirrels, gophers and rodents destroy a high percentage unless precautions are taken.

Special work on the rooting of cuttings also is being carried out. Experiments in grafting cork to native oaks have produced interesting results. At the present time the number of cork trees planted each year is limited to the cork acorn crop. Development of successful methods for grafting the cork oak to other trees or for rooting cork cuttings would remove this restriction. Reports on this work are encouraging.

Such experiments as these require several years for completion. In the meantime, the maximum number of cork trees possible are being planted. Interest and enthusiasm are high and the cork project, like other defense activities, is moving forward rapidly. There are many acres of non-productive land in the cork producing sections of the South, and every acre planted in cork makes the land more valuable and, as a consequence, helps the owner, the state and the nation.

Forestry in Ozark Cooperatives

(From page 587)

lin County, Missouri. It was news when a Catholic priest and an Evangelical and Reformed Church minister crossed denominational barriers to lead their farm parishioners, with the help of the Missouri Conservation Commission, in forming a wildlife conservation district. They were mostly concerned with the conservation of game for farm food supply. Urban sportsmen will be required to secure permission to hunt upon the 10,000 acres set aside, and this is to be permitted only after the lapse of the number of years necessary to restore game. If this cooperative continues in operation, it opens the way for restoration of an area which was badly burned out and eroded.

The Missouri Conservation Commission has also helped farmers at Warren-ton, just north of the Missouri River, by assigning a forester to help centralize management of their woodlands and assist in harvesting and marketing forest products. Covering perhaps a half dozen counties, a small nucleus of interested farmers have mutually decided to put their woodlands under this more efficient basis of operation.

These two examples are less formal cooperatives than the now liquidated Naylor Cooperative Cannery, a former relief project at Naylor, Ripley County, Missouri. Along with the cannery and commissary the cooperative operated a sawmill doing custom sawing for its members, providing material for expansion of plant facilities and utilizing waste in the cannery boiler. The mill operations were profitable but the cannery foundered in 1938.

Farmer-owned lumber yards are common in Iowa and Nebraska, but only one is known in southwest Missouri. At such cooperatives farmers can buy their lumber requirements at reduced rates. Sometimes such cooperatives also market their members' forest products.

Shannondale Community House in Shannon County, Missouri, undertakes to market handcraft articles made of wood through its guild and cooperative store. Such items as paper knives, napkin rings, baskets and chairs, using a variety of forest raw materials, are sold. The guild encourages individuality of

design; the cooperative sells to the tourist trade, while the community house handles mail orders. A cooperative forest is being developed which may be used in future unemployment relief and for maintaining a supply of raw materials for the crafts. Some ten or fifteen families have at times earned a large part of their income from these combined enterprises.

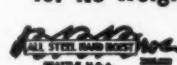
In Taney County, Missouri, the Farm Security Administration is developing under the initial leadership of Agent Warren Cook, a cedar fence post cooperative. The FSA advances its clients funds to purchase stumpage for posts on the national forests; the cooperative sells the posts, reimburses the FSA, and refunds the balance to the members. It is estimated that an additional fifty dollars a year income for perhaps two dozen families will be provided through this cooperative action.

The FSA has also laid out plans for cooperative ownership of a 2,000-acre tract, with small sawmill, for an association of twenty subsistence farming families in the cultivatable valleys. The sustained yield of forest products from this tract is intended to provide a regular cash income for these families.

Speaking generally, farm groups may profit from the ownership of sawmills. The Indiana Farm Bureau Cooperative has its own mills at Pine Bluff and Leola in Jefferson County, Arkansas, which they estimate to save the milling net profit and the wholesale brokerage for their members—a total reduction of some twenty percent in the costs of farm building supplies for Indiana farmers obtained from Ozark woodlands.

These examples—interesting and significant as they are—do not mean that cooperative action on its present scale will solve the forestry and land use problems of the Ozarks, but it shows that it may be, if continued vigorously. The war has probably delayed if not set back progress. Let it be hoped that it will be accelerated when peace comes—and that in the end it will succeed. Cooperative action—with or without public assistance—is the democratic way, which is also the American way.

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The Aleutians

(From page 581)

war began, and they were small. Attu had half a hundred Aleuts, one white man and his wife, a school maintained by the United States Bureau of Indian Affairs and a Russian Orthodox church, *sans* priest. Atka claimed some seventy natives, the same kind of church and school, the westernmost postoffice in Alaska, and one white couple serving as teacher and postmaster. Save for those two hamlets the western Aleutians were without people for 800 miles. Neither village exists today. Atka was evacuated shortly after the Dutch Harbor attack and the story of Attu is too well known to need retelling.

The Aleuts of the two villages made their living in prewar years largely by trapping blue foxes. They did considerable fishing for home consumption, but not for trade. And in both villages a few of the older women made the famous Attu basket that is likely the finest example of Indian handicraft produced on this continent. The women gathered a special grass along the beaches in early autumn, split it into strands, bleached it and without the aid of needle, shuttle, hook or other implement wove it into a container tight enough to hold water.

Two hundred miles beyond Attu, midway to Kamchatka, lie the Commander Islands of Russia, Copper and Bering. They are the last peaks to lift out of the sea, in the mountain range that forms the Aleutian chain. The short ocean gap that separates them from the American islands holds some interesting possibilities should the day ever come when Soviet Russia and the United States want to turn upon a common enemy in the Pacific.

Treeless, foggy and stormy as the Aleutians are, they are far from lifeless. Of game animals they have only the big brown bears and the caribou of Unimak, but other wildlife abounds. Arctic foxes are plentiful on most of the islands. The seafoal colonies are the biggest in North America. Kittiwakes, gulls, fulmars, puffins, auklets and murrens crowd the cliffs like swarming bees. Bald eagles nest on the ground for want of trees. Wild ducks haunt every grassy pond, Pacific eiders and dainty little teal, harlequins and oldsquaws. There are ravens and snow buntings inland, turnstones and plovers, sandpipers and phalaropes, finches and longspurs.

Freshwater lakes lie impounded in the low valleys and from them streams make their way down to the sea. In those lakes and streams Dolly Varden trout are much at home and halibut, herring and cod are plentiful in the sea.

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Ever since the Axis hauled off and hit us when we weren't looking, prices have been nudging upwards. Not rising awfully fast, but **RISING**.

Most folks, having an average share of common sense, know rising prices are **BAD** for them and **BAD** for the country. So there's been a lot of finger pointing and hollering for the **OTHER FELLOW** to do something—**QUICK**.

The government's been yelled at, too. "DOGGONNIT," folks have said, "WHY doesn't the government keep prices down?"

Well, the government's done a lot. That's what price ceilings and wage controls are for—to keep prices down. Rationing helps, too.

But let me tell you this—we're *never* going to keep prices down just by leaning on the government and yelling for

the **OTHER FELLOW** to mend his ways.

We've **ALL** got to help—**EVERY LAST ONE OF US**.

Sit down for a minute and think things over. Why are most people making more money today? It's because of the **SAME** cussed war that's killing and maiming some of the finest young folks this country ever produced.

So if anyone uses his extra money to buy things he's in no particular need of . . . if he bids against his neighbor for stuff that's hard to get and pushes prices up . . . well, sir, he's a **WAR PROFITEER**. That's an ugly name—but there's just no other name for it.

Now, if I know Americans, we're not going to do that kind of thing, once we've got our **FACTS** straight.

All right, then. Here are the seven rules we've got to follow as **GOSPEL** from now until this war is over. Not some of them—**ALL** of them. Not some of us—**ALL OF US**, farmers, businessmen, laborers, white-collar workers!

Buy only what you need. A patch on your pants is a badge of honor these days.

Keep your OWN prices DOWN. Don't ask higher prices—for your own labor, your own services, or goods you sell. Resist all pressure to force **YOUR** prices up!

Never pay a penny more than the ceiling price for **ANYTHING**. Don't buy rationed goods without giving up the right amount of coupons.

Pay your taxes willingly, no matter how stiff they get. This war's got to be paid for and *taxes are the cheapest way to do it*.

Pay off your old debts. Don't make any new ones.

Start a savings account and make regular deposits. Buy and keep up life insurance.

Buy War Bonds and hold on to them. Buy them with dimes and dollars it **HURTS** like blazes to do without.

Start making these sacrifices now—keep them up for the duration—and this country of ours will be sitting pretty after the war . . . *and so will you.*

Uncle Sam

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Aleutian weather is not exactly our ally but it isn't Japan's, either—and it's far from bad enough to prevent us from crossing the bridge to Tokyo.

Back in 1924 United States army flyers circled the earth by air, the first time it had been done. That job of pioneering is hardly remembered in these days of global war and blockbusters and paratroops. But one leg of that first round-the-world flight was prophetic. The army airmen went by way of the Aleutians. The last American land they saw, before the hills of Asia rose out of the sea, was Attu. They blazed the trail.

The Lord built it for us, Tojo. We'll use it!

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WHO'S WHO

Among the Authors in this Issue

P. L. BUTTRICK (*Forests Under Hitler*) is an American forester who served in the French Army in the last war and has done professional work in Europe at various times since.

STANLEY P. YOUNG (*What Was the Early Indian Dog?*), noted wildlife expert and writer, is Senior Biologist of the Fish and Wildlife Service. Mr. Young here tells with fascinating interest of the genesis of the Indian dog—long a controversial subject.

BEN EAST (*The Rocky Bridge to Tokyo*), outdoor editor and champion of conservation, has been writing militantly in this field from Michigan for over twenty years. His work has been highly constructive,—particularly in the North Woods country.

GILES B. COOKE (*Growing Cork in the South*) was born in Gloucester, Virginia. He was graduated from William and Mary College in 1923, received his doctor's degree from Maryland U. in organic chemistry in 1929 and has since been engaged continually in research and development work on cork and cork products. At the present time he is in charge of research on cork and rubber for the Crown Cork and Seal Company.

LEWIS BALDWIN (*Forestry in Ozark Cooperatives*) is a native of Troy, New York. A DePauw University man, he toured Europe in 1936 studying cooperatives. Returning to this country, he continued his work in Missouri, where he later became manager of the Shannandale Cooperative, at Gladden. At present he is serving under the Selective Service System in Connecticut.

HARRY W. DENGLER (*Laurel Farming for Christmas*) is extension forester for the University of Maryland, stationed at College Park. His previous forestry experience has been in Wisconsin, Tennessee and New York and in July of this year he had completed seven years' work with the Soil Conservation Service in Maryland and Delaware.

L. E. MANNING (*Pruning for Christmas Greens*) is president of the well-known Kelsey Nursery Company and writes from New York.

G. H. COLLINGWOOD (*Pecan*) makes another interesting contribution in his *Tree Series*. Harris Collingwood, well and widely known professionally, is now associated with the National Lumber Manufacturers Association.

THE COVER—"Christmas Morning in the Woods." Photograph by John H. Cornwall.

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